





Animal Keepers' Forum

July 1989



Dedicated to Professional Animal Care

ANIMAL KEEPERS' FORUM, 635 Gage Blvd., Topeka, KS 66606

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Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKE.

This month's cover features the Aardvark (Orycteropus afer) drawn by Dave Ackerman, a Herbivore/Carnivore Keeper at the Columbus Zoo, Powell, OH. This order of mammals is represented by a single family, genus and species - the aardvark. The Afrikaans name for aardvark means "earth pig". This highly specialized predator feeds almost exclusively on termites. Its tough skin, powerful build and massive toes which look like hooves, help it claw through tough termite mounds. After locating its prey by smell, the aardvark rapidly digs sometimes resting on its hind limbs and tail. Even its ears fold back to keep dirt out of them. The aardvark removes termites with its tongue which has a sticky saliva. Aardvark's lack incisors or canines and have cheek teeth which grow throughout its life. Thanks, Dave!

Scoops and Scuttlebutt

Please Note President's Message--Important Information on AAZK's Financial Status and Membership Fees

All members are urged to read carefully this month's "From the President" message. It contains information on AAZK's financial status and on recent decisions by the Board of Directors on restructuring of membership fees. Questions or concerns on these changes may be directed to any Board member.

Director of Chapter Affairs Resignation Announced

It is with deep regret that the AAZK Board of Directors announces the resignation of Chris Garland as Director of Chapter Affairs. Due to a recent career move and expansion of his professional responsibilities, Chris felt he would not be able to devote the time necessary to this important Association position. Chris and Director of Regional Coordinators Bill Whittaker had been working closely on revamping and reorganizing the CRAC system and Bill will assume Chris' duties for the present time. The Board wishes to thank Chris for his dedication and hard work on the system and wishes him much success in his new position.

U.S. Imposes Immediate Ban on Elephant Ivory Imports

On 6 June, Secretary of the Interior Manuel Lujan announced that his Department will move immediately to fully implement President Bush's decision to impose a total ban on commercial importation of African elephant ivory into the United States. The action was taken under the authority of The African Elephant Conservation Act of 1989 and the Endangered Species Act. The ban is directed at commercial trade and will not extend to legally taken sport-hunted trophies imported into the U.S. from countries which have CITES ivory export quotas.

"This Administration is committed to doing all we can to stop the massive poaching of African elephants," Lujan said. "We believe the current international system for controlling ivory trade has failed to protect the elephant, and we have no choice but to halt commercial ivory shipments into the U.S. Although this action alone will not stop international trade in African elephant ivory, it is my hope that other countries will share our outrage and follow our lead in this very crucial matter."

Lujan said the U.S. is imposing the moratorium on ivory imports before the CITES meeting because of a newly completed Interior Dept. review of international elephant conservation and trade programs has determined there is no way to distinguish legal from

Scoops and Scuttlebutt, Continued

illegal ivory in trade. (see related story under Legislative Update this issue). More than 80 percent of the commercial ivory trade is believed to be occurring outside the current CITES ivory control system.

Under the African Elephant Conservation Act, it is unlawful for any person to import raw or worked ivory from any country in which a moratorium is in effect. Anyone knowingly violating this provision is subject to a 1-year imprisonment and/or a fine of \$100,000. Additionally the USFWS is advising all international travelers on the ban and warning that any elephant ivory obtained abroad is subject to seizure upon entering the U.S. Violators may be subject to a \$5,000 penalty.

*(Editor's note: If you have not sent the postcard contained in last month's issue, please do so now. It urges Congress to fund the full \$5 million for implementation of the provisions of the Elephant Conservation Act. **Late news item:** Japan and Hong Kong have just announced that they will ban the importation of most ivory shipments into their countries. The total implications of this ban were not known at press time, but it certainly marks a step in the right direction since Japan consumes about 40% of the world's ivory trade and Hong Kong is the primary location where raw ivory is converted to carved items.)*

From the Los Angeles Chapter

We had a newspaper article given to us recently, but nobody seems to know which newspaper it came from or the exact date it was printed. It reads as follows:

"A matter of concern: The world's largest bootmaker says it will no longer use elephant hide to make boots. The Acme Boot Co. of Clarksville, TN, has announced that when its present stock of elephant hide is used up, it will discontinue such products from its line. A company spokesman said that although the hides used by the company were all legally imported from government-approved sources in Africa, rising public concern over Africa's declining elephant population persuaded Acme to stop using the skins."

Thank you to Acme Boot Co. from all members of the Los Angeles AAZK and everyone associated with the Los Angeles Zoo.

Pittsburgh AAZK Chapter to Hold Reception at AAZPA Conference

The Pittsburgh Chapter of AAZK invites all AAZK members attending the 1989 AAZPA Conference in Pittsburgh, PA to an informal reception on 26 September from 1-3 p.m. in the Zoo's Commissary Building. Keepers will be available throughout the Zoo to answer questions, give tours and 'talk shop'. See you in September!



Information Please

I am interested in information on the Common Emu (*Dromaius novae hollandiae*). Any reproductive, dietary, or medical problems, such as diseases and worms they are prone to have. Exhibit landscaping information would also be helpful. Send to: Pete Riger, Riverside Zoo, 1600 S. Beltline Hwy., Scottsbluff, NE 69361.

I have a White Nosed Coati that was hand-raised and will not adapt to our other exhibit coatis. If anyone has any information regarding special introduction procedures, please send to: Sherry Hornstein, The Texas Zoo, P.O. Box 69, Victoria, Texas 77901.



From the President.....

Frank B. Kohn

During the Board of Director's mid-year meeting in Topeka, the financial situation of AAZK was intensively examined. In 1988 we took in \$69,188.55 in revenue and expended \$74,656.34, whereby our expenditures exceeded our revenue by \$5467.79. At our current pace, our projected expenses for 1989 will exceed our projected revenues by approximately \$7,000.00.

Three-quarters of our revenues are from membership fees. We need additional sources of income in order to best serve the membership. A campaign to increase the number of Contributing members, primarily from zoological societies, has already started. We have also filed for a 501 C-3 non-profit status with the Internal Revenue Service. Postage costs, which currently account for almost one-half of our office expenses, will be cut if we receive a favorable IRS ruling. The status change will also allow us to accept donations and grants more easily.

Currently one AAZK membership costs the Association approximately \$29.00 to service for one year, regardless of the membership classification. This \$29.00 includes 12 issues of Animal Keepers' Forum plus each member's percentage of the overall cost of running AAZK (i.e. wages for Administrative Secretary and AKF Editor; office expenses such as stationary, postage, telephone, supplies, equipment, etc.; and the expenses of various AAZK committees and projects.) When you consider that our highest individual membership category is \$25.00, the Association is losing at least \$4.00 or more per member on each membership it services.

Approximately 30% of our total budget goes for the salaries of the Association's only paid staff - the Administrative Secretary and the AKF Editor. These individuals work strictly for an hourly wage and do not receive benefits such as health insurance, sick leave, or retirement which are traditional with most jobs. The work performed by these staff members is necessary for AAZK to properly function. Membership services such as publications may have to be curtailed unless we find additional and alternative sources of funding.

To keep pace with the needs of your professional organization, the Board of Directors has determined that it is necessary to institute some changes in the membership fee structure. Beginning on 1 September 1989, annual dues for all Professional members will be raised to \$30.00. Affiliate and Associate memberships will no longer have different fees, but will each pay \$25.00 for an annual membership. The fee for all International Members will be \$30.00. Contributing membership fees will continue at \$50.00. In addition, the initial fee a Chapter pays to charter with AAZK will be raised to \$25.00 and the annual charter renewal fee will be raised to \$10.00.

These changes were made only after lengthy discussion over the last several months. I want to stress that the Board raised membership fees to help the organization only as a last resort. We have not had an increase in fees for nearly five years. As our growth has escalated, so have our responsibilities to meet member needs and to keep pace with inflation. Inflation, of course, affects all organizations, and is something over which we have no control.

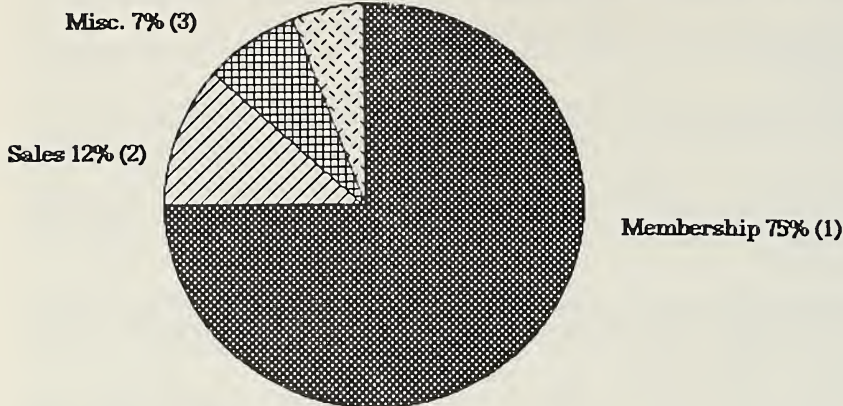
We also hope that Chapters will help us to overcome these deficits. Chapters are our strongest tool. Our current services, such as the ADT Form, Keeper Training Videos, and various reference publications, have been praised within and outside of our organization and it is our members and Chapters who have organized the majority of these projects. Active Chapters are being contacted by their RC's to discuss ways in which Chapters can help.

Members having difficulty accepting these changes are encouraged to contact any Board member. AAZK's fees are quite low for a professional organization, but are needed to support our rapid growth and responsibilities. As our financial stability increases the need for future increases will hopefully diminish.

Revenues 1988

Nat. Conf. 6% (4)

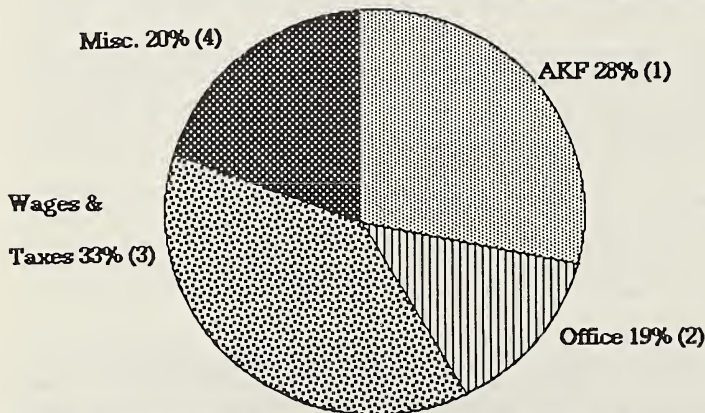
American Association of Zoo Keepers, Inc.



- (1) MEMBERSHIP - includes membership fees from all categories.
- (2) SALES - includes sales of patches, pins, charms, membership directories, AKF's, Career Brochures, Conference Proceedings, advertising for AKF, sales of Diet Notebook, Biological Values and Zoonoses reference books.
- (3) NATIONAL CONFERENCE - represents 50% split of profit from an annual conference received by AAZK Administrative Offices.
- (4) MISC. - includes Chapter charter and renewal fees, expense reimbursement, donations, interest income, postage, etc.

Expenses 1988

American Association of Zoo Keepers, Inc.



- (1) AKF - includes costs of printing, mailing service, postage, and AKF misc. Does not include cost of editor's salary.
- (2) OFFICE - includes printing costs of Career Brochures, Membership Brochure, By-laws, General Printing (renewal cards, stationary, etc.), office supplies, office postage, postage meter and scale rental, photocopying/telephone/FAX charges, equipment maintenance, legal and accounting fees.
- (3) WAGES & TAXES - includes salaries for the Administrative Secretary and AKF Editor as well as State and Federal Employee Taxes.
- (4) MISC. - includes conference costs, Board mid-year meeting, committee and project expenses, reorder of accessories, insurance, interest and depreciation expenses on computer equipment.



Coming Events

Joint Conference North American Association for Environmental Education and the Conservation Education Association

August 18-23, 1989

Troy, OH

An exciting program has been drawn up for this joint conference. For more information, write NAAEE/CEA Conference Headquarters, P.O. Box 400, Troy, OH 45373.

Fifth Annual AZAD Conference

September 19-22, 1989

Columbus, OH

Hosted by the Columbus Zoo Docent Association. 1989 Conference theme is "Learning, Caring, Sharing", which reflects the essence of being a docent or volunteer. Conference will include paper sessions, educational speakers, and social events. Guest speakers will include Richard Block of WWF, John Becker of the International Society of Endangered Cats, David Jenkins of the International Center for the Preservation of Wild Animals, Andy Lodge of the Ngare Sergoi Support Group, and Cathryn Hilker from the Zoological Gardens of Cincinnati. To receive pre-conference packet with registration/hotel information, etc., please call the Columbus Zoo AZAD Conference Hotline (614) 645-3483 or write to Conference Chairman, Camille Smith, at AZAD Conference '89, P.O. Box 1042, Powell, OH 43065.

AZVT 9th Annual Conference

September 22-24, 1989

Calgary, Canada

Hosted by the Calgary Zoo, Botanical Gardens & Prehistoric Park. For more information please contact: Lori Rogers, A.H.T., Calgary Zoo Animal Health Centre, P.O. Box 3036, Station "B", Calgary, Alberta, Canada T2M 4R8 or call (403) 265-9310 local 376.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.

American Pheasant & Waterfowl Society

October 18-21, 1989

Ft. Lauderdale, FL

This convention affords the opportunity to meet people with similar bird interests. Tours will include Miami Metrozoo, the Everglades and Parrot Jungle. Talks by informative and knowledgeable bird breeders as well as panel discussions will be included. To receive a convention packet please write or call: Lloyd Ure, R.R. I, 164-A, Granton, WI 54436 (715) 238-7291.

Coming Events. *Continued*

17th Annual Conference of the International Marine Animal Trainers Association

Oct. 29-Nov. 3, 1989

Amsterdam, Holland

The Association's first European Conference is hosted by Zeedierenpark Harderwijk. Conference will include paper sessions, poster session, Discussion groups, IMATA Trophy Competition, etc. For more information contact: Jeffrey E. Haun, VP/IMATA, NOSC - Code 511, P.O. Box 997, Kailua, HI 96734-0997.

10th Annual Elephant Workshop

November 1-4, 1989

Tulsa, OK

Hosted by the Tulsa Zoo. For further information contact: Larry Nunley, Tulsa Zoo, 5701 E. 36th St. N., Tulsa, OK 74155. Phone (918) 596-2400.



AAZK Announces New Professional Members

Lewis Stevens, Museum of Science (MA)	Mary Jo Fitzgerald, Franklin Park Zoo (MA)
David Martini, Roger Williams Prk. (RI)	William Sheshko, Bronx Zoo (NY)
Elizabeth Diehl, Bronx Zoo (NY)	Gretchen Lorre Young, Thompson Prk Zoo (NY)
David Ittermann, Seneca Park Zoo (NY)	Joe Zapsiek, Philadelphia Zoo (PA)
Joseph Meenan, Philadelphia Zoo (PA)	Emma Woods, Zoo Atlanta (GA)
Bill Chapman, Museum Life & Science (NC)	Todd B. Conner, Museum Life & Science (NC)
Kathy Topham, Museum Life & Science (NC)	Jan Naud, Woods Haven Farms (FL)
Susan L. Hall, Lion Country Safari (FL)	Jan Weinig, Washington Prk Zoo (OR)
Craig Berg, Milwaukee County Zoo (WI)	Linda Cieslik, Milwaukee County Zoo (WI)
Kathy Snyder, Brookfield Zoo (IL)	Patricia Smith, St. Louis Zoo (MO)
Kathy A. Gresio, Kansas City Zoo (MO)	Glenn Pearl, Audubon Park Zoo (LA)
Michelle Whitehouse, Dallas Zoo (TX)	Theresa Ramold, Dallas Zoo (TX)
Joanna Blody, Houston Zoo (TX)	Rodney Weatherby, Abilene Zoo (TX)
Cate Werner, Denver Zoo (CO)	Heather Walsh, Hapy Hollow Zoo (CA)
Lawrence Blair Goral, Folsom City Zoo (CA)	Lydia Atthro, Metro Toronto Zoo (Ont.)
Garth Cooper, Wild Kingdom Zoo (Man.)	Colleen McConechy, Crystal Gardens (B.C.)

New Contributing Members

Danne E. Herrmann, Cleveland, OH
Folsom Children's Zoo & Botanical Gardens, Lincoln, NE
Jody Roemmich, San Diego, CA

Renewing Contributing Members

Abilene Zoological Society, Abilene, TX





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Births & Hatchings



San Diego Zoo and Wild Animal Park...for the first time at the Zoo and the first time in 25 years in North America, Gold-crested mynahs have successfully bred. At the Avian Propagation Center a Jambu fruit dove is being parent-raised. We are only the second institution in North America that can make that claim. Also at the APC, two Milky wood storks from the Tiger River Marsh Aviary are being hand-raised (another first in N. America), and three Cream-colored coursers are being hand-raised for the first time in North America.

On 22 April at the SDWAP, Jasiri, a cheetah at the Cheetah Breeding Facility, produced her first litter of cubs (0.0.4). Fortunately, she choose to have her young in the maternity nestbox which was set up with a video camera for close monitoring. We were able to film the entire birth--a process which lasted about three hours. Jasiri is an outstanding first-time mother to her cubs. She was imported from the DeWildt Breeding Facility in South Africa in 1987.

A second litter (0.0.4) was born on 10 May to Imani, an experienced mother. This female has already produced 2 litters - one in 1986 (2.2) and again in 1988 (1.3). She was brought here in 1984 from the Columbus Zoo and has been a valuable asset to the Cheetah Breeding Facility. Hodari, a five-year-old male, is the sire of both litters. He now joins the steadily increasing number of proven male breeders at out facility. (The second litter also includes the 80th cub born at the Wild Animal Park since 1970 when this project was first initiated.) from *The Keeper*, newsletter of the San Diego Chapter of AAZK, June-July 1989.

Sacramento Zoo...a Great hornbill (*Buceros bicornis*) chick hatched on 29 April while "walled-up" in the nest with its mother. The chick is being raised by the parents. This is the sixth hatching in the United States. The Sacramento Zoo also had one of the first hatchings in 1979. Until this hatching, incubation period was unknown (even from wild studies). Because of this hatching we now know incubation for this species is 28-30 days. from *Species*, the newsletter of the Greater San Francisco Bay Area AAZK Chapter, May/June 1989.

Los Angeles Zoo...the L.A. Zoo is pleased to report significant occurences for April/May 1989.

Mammals: 0.0.2 Spectacled bear (*Tremarctos ornatus*) - this SSP-governed species, also called the Andean bear, is the only member of its family found in the Southern Hemisphere. L.A. has an excellent record breeding Spectacled bears and management of them is fairly unique in that the adult male is routinely successfully introduced to the female and babies when the cubs are only about 6 months old. They are housed in a dry-moated type exhibit and the female prefers to give birth outdoors in the back of the moat, rather than in the indoor, off-exhibit night quarters.

3.2 Warthogs (*Phacochoerus aethiopicus*) - still fairly common over most of the open woodland of South and East Africa, the first warthogs in over 40 years were allowed into the U.S. in 1985. Fortunately for us, that pair came to L.A. and has successfully produced three litters. In 1987, we received 2.1 from Moscow, but because of incompatibility with every female he was introduced to, one of the Moscow males was shipped to another zoo. The remaining Moscow pair has produced 2 litters, the second being the above reported one. Shortly after birth, 2.0 piglets were found outside the farrowing stall in a cold and weakened condition. They were taken to our nursery for hand-rearing and are doing well; the remaining 1.2 piglets are being successfully mother-reared. With 3 exhibits of pigs, 2 warthog exhibits and 1 Babirusa exhibit, L.A. might easily qualify as the swine capitol of the zoological world.

Births & Hatchings. *Continued*

2.2 (1.0 DNS) Black and white ruffed lemurs (*Lemur variegatus*) - native only to Madagascar, all lemurs are becoming increasingly rare due to habitat destruction. Ruffed lemurs are the largest of all the true lemurs: 4 ft. from tip of nose to end of tail when fully grown. They are also an SSP-governed species. This birth is significant because the babies are a set of quadruplets and the 3 survivors are being mother-reared. This marks the second birth for the dam.

0.1 Chimpanzee (*Pan troglodytes*) - although the dam is a colony-reared animal, she has shown no interest in raising any of her four offspring--all have been hand-reared in our nursery. This baby weighed in at 4 lbs. 11 oz. and was successfully removed from her mother within about 3 1/2 hours after birth. She is doing very well under the excellent care of our nursery staff.

0.0.2 Pygmy marmosets (*Cebuella pygmaea*) - found in Amazonian forests, this is the smallest of all living monkeys, with an adult body length of 4 inches and a tail of equal length. L.A. houses only one pair which came to use as a confiscation, and this set of twins is the first birth.

1.1.2 Emperor tamarin (*Sii*) - 1.1 of these tiny, attractive South American primates were hand-reared and fostered back with their parents at about 42 days of age.

0.0.1 Emperor tamarin (*Sis*) - the sire of this baby came to L.A. from Dallas, and is of wild-caught stock from which only two animals still survive.

1.0 (0.1 DNS) Arabian oryx (*Oryx leucoryx*) - these beautiful antelope are totally extinct in the wild state. They are SSP-governed and have active re-introduction programs in cooperation with the governments of Israel, Oman, Saudi Arabia and Jordan. L.A. has sent animals to both Israel and Oman for release. These calves were the 117th and 118th to be born at L.A.

2.1 (0.1 DNS) Speke's gazelle (*Gazella speikei*) - these tiny African antelope are unique in that they have an inflatable nose "sac" that becomes distended when they are threatened or excited. Speke's are an endangered species regulated by a studbook, and are not commonly kept in zoological collections.

1.1 Harnessed bushbuck (*Tragelaphus scriptus scriptus*) - although not endangered in the wild, these beautiful, shy African antelope are kept by fewer than three zoos in N. America. This is the second birth of our pair and of special significance because it is the first-ever documented set of twins. Due to the fractious nature of harnessed bushbuck, all calves are routinely hand-reared, and this newest pair is doing very well.

0.1 Gerenuk (*Litocranius walleri*) - native to East Africa, and also called Giraffe Antelope gerenuk are delicately shaped with slender, elongated limbs and an extraordinarily long, thin neck. They are never found on the open plains, as they are specialized browsers, balancing on their hind legs to feed. Although not rare in the wild, they are uncommon in captivity. L.A. has one of the largest and most successful breeding herds in the U.S. All calves are routinely hand-reared due to their flighty disposition. A studbook has just recently been established.

2.2 Rocky Mountain goats (*Oreamnos americanus*) - L.A. has exhibited and bred these agile goat-antelope for a number of years, but ran into an unfortunate reproductive "dry spell" over the past few years. This year's bumper crop of kids is doing quite well and the exhibit is an extremely popular one with the public. Rocky Mountain goats are not commonly kept in captivity.

6.7 (0.2 DNS) Pronghorn (*Antilocapra americana americana*) - the sole living representative of an ancient family, the pronghorn is the swiftest animal in N. America, reaching speeds of 60 mph plus. They are not true antelope--all those are found in Africa and Asia. Both sexes sport horns with a tine, or prong, on the front. These are not true horns, but hollow sheaths, over a bony core, that are shed every year. L.A. has one of the

Births & Hatchings. *Continued*

largest and most successfully reproducing herds in the country. Because pronghorn are an extremely difficult species to manage in captivity, they are not kept in many collections, and some zoos that have exhibited them in the past have elected to "go out of the pronghorn business". Due to their nervousness and acutely strong flight reflex, plus the medical problems captivity brings, all the fawns at L.A. have been routinely hand-reared since 1982. These reported births do not mark the end of the '89 fawn season--2, maybe 3 more does are still due to drop.

0.1 Churro sheep (*Ovis aries*) - Churros are an endangered, domestic breed most commonly kept by the Navajo Nation since the 19th century. The wool is much sought after for Navajo weavings, and products made from churro fleece command enormous sums on today's market. The Navajo Sheep Project, directed by Dr. Lyle McNeal of Utah State University, is rescuing the churro and re-introducing the breed to Navajo flocks. L.A. received a pair from Utah State University - a ram with 4 horns and a pregnant ewe. The birth of the female lamb, who was not sired by our male, is the first for L.A. These sheep are housed in our new Adventure Island Hacienda exhibit.

Reptiles: 0.0.2 (twin) Prehensile-tail skink (*Corucia zebata*) - native to the Solomon Islands, these interesting reptiles have become increasingly exploited by the pet trade. Because they come from a very limited geographic area, are exploited by the pet trade, and have a low reproductive rate (1-2 offspring per year), their actual status in the wild is unclear.

0.0.6 Dumeril's boa (*Acrantophis dumerili*) - these snakes, native to Madagascar, are endangered due to habitat destruction. They are governed by an SSP program.

Birds: 0.0.1 California condor (*Gymnogyps californianus*) - on 21 May, L.A. Zoo's first California condor egg hatched! The egg was laid on Easter Sunday, 26 March, by female Cachuma and male Cuyama. The parents are the first pair of California condors to ever double clutch in a single season in captivity--their first egg was infertile. The egg was artificially incubated, and 56 days later the chick, named Kaduku (an Indian name meaning a strong being, both spiritually and physically), was assisted into the world with a little help from some very skilled human friends. Kaduku is being puppet-reared and is doing very well. A VERY exciting and important "first" for the Los Angeles Zoo!

0.0.1 Greater flamingo (*Phoenicopterus ruber*) - this was the first greater flamingo egg hatched at the L.A. Zoo. The group was moved to our new flight cage where they nested out their first egg.

Our 6th Andean condor (*Vultur gryphus*) chick of the season was recently hatched out. The chicks are being puppet-reared for the release programs in both California and Columbia. The females are being released experimentally in California, and the males are being permanently released in Columbia.

0.0.3 Harris hawk (*Parabuteo unicinctus*) - although widespread in S. America, the Harris hawk has been virtually eliminated in the northern part of its range. L.A. is an active participant in helping to re-introduce Harris hawks into S.E. California and S.W. Arizona.

0.0.2 Scaly breasted lorikeets (*Trichoglossus chlorolepidotus chlorolepidotus*) - an unusual Australian bird, this species' habitat is southern Queensland and New South Wales. There are not many of these birds in the U.S.

New Arrivals: 1.1 Red wolves (*Canis rufus*) - these N. American canids, extinct in the wild state, are SSP-governed and have an active re-introduction program into N. Carolina's Alligator River National Wildlife Refuge. L.A. has received a pair from Pt. Defiance Zoo and Aquarium in Tacoma, WA, and is hoping to breed them and be able to participate in the Red Wolf Re-introduction Program.

1.1 Babirusa (*Babirusa babirusa*) - the strangest member of the pig family, with its almost hairless, wrinkled skin and huge curved tusks that are reminiscent of antlers, the

Births & Hatchings. Continued

Babirusa is an endangered species from the Celebes. Their native name means "pig-deer". After a 40-year absence from American collections, the USFWS allowed the importation of exotic swine into the U.S. in 1984. This brought the first Babirusa into the U.S. L.A. acquired a pair at that time, but after several unsuccessful births, our original pair has been sent to the Bronx Zoo, which is having very good success breeding Babirusa. Our newest pair is from the Antwerp Zoo and are each about 2 years old. They have never been together and have just recently completed in-house quarantine. We're looking forward to an uneventful introduction and, subsequently, a successful breeding program with this new pair. --submitted by Kim Brinkley, Chapter Liaison, L.A. Zoo AAZK Chapter, Los Angeles, CA.

Bronx Zoo... the Bronx Zoo Chapter announces the following significant births and hatchings in May 1989. The Dept. of Mammalogy is pleased to announce that 0.0.2 Snow leopards (*Panthera unica*) were born. These shy, nocturnal felids are highly endangered and are listed as CITES I. Although almost extinct in nature, the Bronx Zoo has seen more than 62 born here since 1966. We participate actively in the Special Survival Plan for them, and the species coordinator for the SSP is Dan Wharton from the Bronx Zoo. Our Wildlife Conservation International field scientists, George Schaller and Alan Rabinowitz, have been studying snow leopards in Tibet for many years. The cubs can be seen in their recently completed habitat, Himalayan Highlands.

An as yet unsexed Siberian tiger (*Panthera tigris altaica*) was born in May. This species is the largest living felid and only about 200 of these endangered and CITES II listed cats are still free-ranging. An SSP program exists for the Siberian tiger.

The birth of a female Lowland gorilla (*Gorilla gorilla*) is the first newborn this year. A female is especially important as the ratio of male to female births is 2 to 1. The Lowland gorilla is endangered in nature and listed as CITES I. Infant gorillas are foster-reared at the Bronx Zoo by Caroline Atkinson with the help of Lisa Mieke and Louisa Gillispie. The new baby is the second fathered by Barney who is on breeding loan from the Toronto Zoo. There is an SSP for this species.

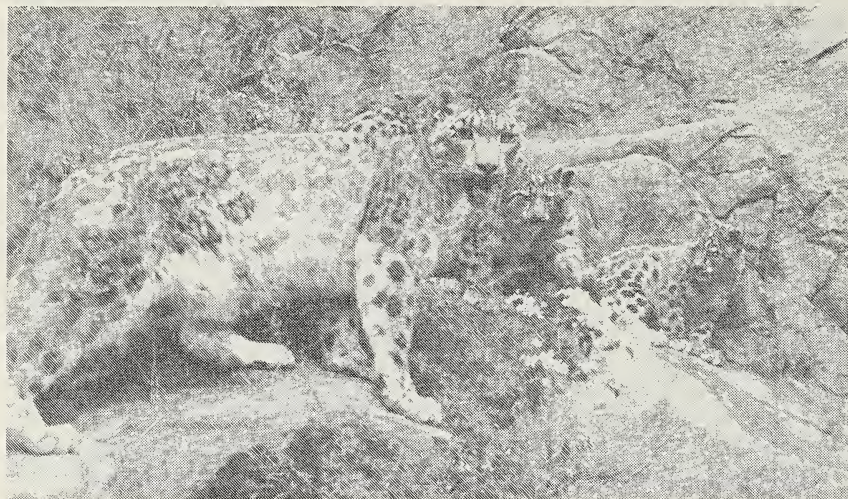
Gibbons are well known for their ability to brachiate, or arm-swing with alternating hand-holds beneath the branches. In the Jungle World exhibit, the less often kept White-cheeked gibbon (*Hylobates concolor*), another endangered and CITES I listed species of primate, have a newborn. This is their second offspring since Jungle World's inception 4 years ago. The adults of this species are sexually dimorphic (males are black and females buff, while other species of gibbons can be dichromatic in color). Infant White-cheeked gibbons are born buff colored, and attain their adult coloration within their first year. The infant gibbon is weaned early in its second year, the adult male having taken over the daily care of the youngster. The most dramatic behavior of the gibbons is the "singing" which mostly involves the adult pair. The song bouts include duets between the male and female as well as "great calls" by the female. The singing was first observed in the pair in Jungle World following the birth of their first baby.

The Bronx Zoo's collection of Mongolian Wild Horses (*Equus przewalskii*) increased with the birth of 1.1.2 foals. These equids are now known only in captivity and are considered nature's only true wild horses. They are part of an SSP program and the Bronx Zoo has a breeding group of 12 mares and 5 stallions. Conservationists hold the hope in the future of re-introducing herds of this historic horse to its former home in the steppes of Mongolia.

The Pere David's deer (*Elaphurus davidiensis*) is another species, extinct in the wild, which is doing well in zoos. One of the largest herds in the Western Hemisphere is found in the Bronx Zoo, and 2 more were born in May. A re-introduction program is planned for these deer also.

0.0.2 Rodriguez fruit bats (*Pteropus rodricensis*) were born this May. These rare bats can be found only on one island in the Indian Ocean, Rodrigues Island. Their population has been severely diminished by deforestation, their numbers have declined from several thousand to several hundred. They can be seen at the Bronx Zoo in the World of Darkness.

Births & Hatchings, Continued



Snow Leopard (*Panthera uncia*) and cubs born recently at the Bronx Zoo. (© New York Zoological Society Photo)



Mongolian Wild Horse (*Equus przewalski*) with foals born at the Bronx Zoo. (© New York Zoological Society Photo)

The Dept. of Ornithology is pleased with the hatching of 0.0.6 Waldrapp ibis (*Gernonticus eremita*) from 3 pairs. Waldrapps have declined in the wild to under 400 in 2 disjunct populations. They have been bred successfully in Europe, but are found in only a few zoo collections in North America. At the Bronx Zoo breeding began in 1987, making this the third year they have bred in their simulated cliff habitat in Jungle World. Previous years' offspring have been sent to the St. Louis Zoo.

Births & Hatchings, Continued

Another Malayan peacock pheasant (*Polyplectron malacense malacense*) was hatched adding to the Bronx Zoo's collection of this lovely species. --submitted by Wendy Worth, Chapter Liaison, Bronx Zoo Chapter, Bronx Zoo, NY.

Columbus Zoo... ungulate births and acquisitions were the prevalent events at the Columbus Zoo during April and May, while our Aquarium continued to experience great success with its pupfish and cichlid breeding programs and we had our first emu chick hatch.

In these two months, the Aquarium hatched 42.75 Salton Sea pupfish (*Cyprinodon macularius*) and the following Lake Victoria cichlid species: 0.0.333 *Psammochromis riponianus*, 0.0.243 *Prognathochromis pellegrini*, and 0.0.340 *Haplochromis obliquens*.

The Aquarium has also acquired its first Tiger-striped catfish (*Merodontotus tigrinus*), a wild-caught specimen. This freshwater catfish, found in the Madeira River in western Brazil, was not scientifically described until 1981. They are about three feet long and have a whitish body and orange fins covered with oblique black stripes, hence the common name. Their river habitat is being exploited for gold dredging, thus exposing the fish to increasing human activity and pollution.

We had our first Emu chick (*Dromaius novae hollandiae*) hatch on 2 April after 52 days of incubation. The parents, acquired in August 1988 from Hiriam College, had not bred prior to this. The 0.0.1 chick was raised on a diet of greens, grated carrots, ratite pellets, vionate, and oyster shells. Other notable avian hatchings include 0.0.1 Ne-ne goose, 0.0.3 Pintail ducks, and 0.0.20 Rheas (both normal and white color phases).

Several ungulate births and a litter of white tigers were the most notable mammal births this spring. On 9 May, our 19-year-old Reticulated giraffe (*Giraffa camelopardalis reticulata*) cow, Noinu, gave birth to a female calf. The infant was standing within 54 minutes of birth and appeared strong, but subsequently she refused to nurse and had to be tube fed for several days as she also rejected a bottle. However, she finally got the right idea and began to nurse off Noinu after a few days, much to everyone's relief. She continues to do well. The sire is 10-year-old Drew. This calf joins one born in January, making this the first time we have two giraffe calves concurrently. Taj, our four-year-old white tiger (*Panthera tigris*) gave birth to 3.0 cubs on 20 May. We were very pleased to discover her displaying excellent maternal care with this litter, as she rejected last year's cubs, her first. Taj was born in Columbus.

Also on 20 May, a 0.1 Topi (*Damaliscus lunatus topi*) was born. This birth is significant because it is our first female topi calf. She is also the last offspring for our breeding male, who died of unknown causes a few months ago, and who sired a total of four calves. We are now in the process of obtaining a new male. The Zoo had its first Reindeer (*Rangifer tarandus*) calf born on 28 May to our second female and it continues to do well. The 1.2 adults were brought in to be a part of our Children's Zoo barn area. Finally, on 25 May, 1.1 pronghorn (*Antilocapra americana*) fawns were born. Due to the species' high-strung nature, all fawns are pulled for hand-rearing after 24 hours to help ensure less stress during shipping out procedures. Our adult group of 1.3 are all four years old.

Our first pair of Warthogs (*Phacochoerus aethiopicus*) and three new Black rhinoceros (*Diceros bicornis*) are the most significant mammal acquisitions this spring. The warthogs, both about a year old, arrived on 5 April from the L.A. Zoo. They are co-owned by our Zoo and International Animal Exchange. These curious looking members of the swine family are noted for their tusks, the facial warts that give them their name, and their peculiar habit of sticking the tail straight up when running. On 10 April, we received two female black rhinos on loan from the Cincinnati Zoo, a mother and her calf. Princess, age 19, is on a short-term breeding loan and will be paired with Clyde, our 37-year-old bull. Her eight-month-old calf, Kulida Kifarua, which is her fourth, will stay on a long-term loan and is slated to be paired with a young male from San Diego when they reach an appropriate age.

Births & Hatchings. *Continued*

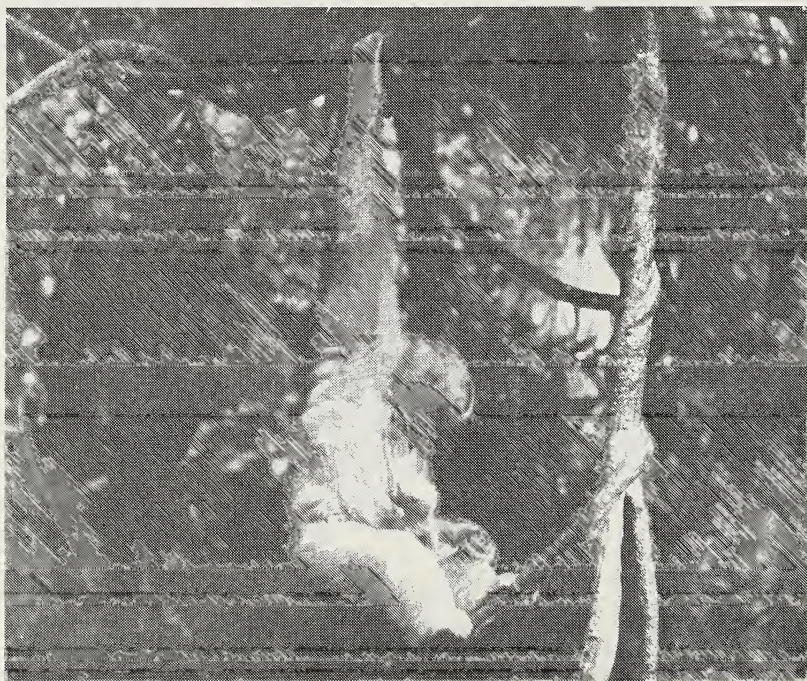
Finally, on 4 May Columbus received another rhino, an older female from San Diego called Mulenda. She had a calf in 1976, but has since failed to conceive. Therefore, our Zoo, as a participant in the black rhino SSP Program, agreed to take her as an exhibit loan animal to free up space in San Diego for some wild caught rhinos. --submitted by Carl Gyarmaty, Columbus Zoo AAZK Chapter, Powell, OH.

Cheyenne Mountain Zoo...significant births and hatchings from January through March 1989 include:

Mammals: significant births of primates included 1.0 Hanuman langur (*Presbytis entellus*), 0.0.1 King-tailed lemur (*Lemur catta*) and 1.0 Black and white colobus (*Colobus guereza kikuyuensis*). Cheyenne Mountain Zoo holds one of the largest collections of Black and white colobus in the U.S. and has successfully bred them since the early 60's.

Another significant birth in the Mammal Dept. was a male Bongo (*Tragelaphus eurycerus isaaci*), born 14 March 1989. The dam is 10 years old and this is her first calf. She cleaned him, but would not nurse him. The calf was left in a stall with the mother except when being bottle-fed. After several weeks, the mother allowed the calf to nurse and supplemental bottle feeding continued. So far, both are doing well.

Birds: 0.0.2 King vulture (*Sarcorhampus papa*) hatched this quarter (0.0.1 DNS). For more information about our history on breeding this species, please see 1989's AAZPA Regional Conference Proceedings. submitted by Nanette Bragin, Chapter Liaison, Cheyenne Mountain Chapter, Colorado Springs, CO.



White-cheeked Gibbon (*Hylobates concolor concolor*) mother and infant born recently at the Bronx Zoo. (©New York Zoological Society Photo)



Update on Reference Search Project

By
Marilyn Cole, Coordinator
Metro Toronto Zoo, Toronto, Canada

As it has been some time since this project was first embarked upon, I thought it might be a good idea to provide an update on what has been happening.

Since the inception of the Project in 1984, the originators seem to have disappeared, along with all the material collected; consequently, when I took over the Project in 1988, it was necessary for me to start from scratch. The purpose of this Project is to provide a centralized system for acquiring bibliographic information about a particular topic of interest to zookeepers, whether it be on a specific animal, or any topic relating to zookeeping and zoos. I didn't really appreciate the scope of the work involved when I volunteered to carry on, and there are times when I think I must need to have my head examined. However, it is an area that has been overlooked, and I believe that when the system is fully operational, it will be of enormous benefit to any of our members who are seeking information.

Over the past year or so, I have been seeking out all sources of bibliographic material that seemed relevant; the pile is now enormous, and continuing to grow at a steady pace. The next step is to put it on computer in such a way that topics can be readily accessed, with many cross-references. So, for instance, if someone wants to know what has been written about the caging facilities and diet for the West African dwarf crocodile, then the computer can search files listed under Housing, Diet and West African dwarf crocodile. At the moment, I am still determining which program to use, but this should be resolved shortly.

In the meantime, I want to draw the members' attention to a sister organization which has some outstanding bibliographic material available already. Many of you are already aware of C.A.U.Z. (Consortium of Aquariums, Universities and Zoos). Under the direction of Dr. Donna FitzRoy Hardy, Dept. of Psychology, California State University, Northridge, Northridge, CA 91330, it is possible to obtain bibliographies on more than 33 topics. All you have to do is to send blank formatted 5 1/4-inch diskettes (for IBM compatibles) to Dr. Hardy, and she will send them to you. For those not blessed with the modern wonder of the computer, there are printed forms available.

In addition, C.A.U.Z. prints an annual directory which lists people sharing common interests on a variety of topics, thereby providing a network of communication within the zoological field. This Directory is available for a nominal fee of \$10.00 and I have personally found it very useful.

I would like to urge our members to make use of these valuable services provided by C.A.U.Z. I shall be working closely with them, so that our mutual goals do not overlap.

Dr. Hardy has suggested that our members would be in an excellent position to provide an invaluable service to everyone. Those keepers who are working at a zoo where an SSP Studbook is being kept might like to take on the job of collecting a bibliography for that particular species. If any of you are interested in sharing in this project, I would love to hear from you.

Marilyn Cole
Metro Toronto Zoo
Box 280
West Hill, Ontario M1E 4R5
Canada

(Ed. Note - if you have bibliographies on any particular species or other topics relating to zoos and zookeeping, please forward a copy on to Marilyn for her to include in the Reference Search Project.)



Kenya Diary 1988

Part 3

By
Andy Lodge
Keeper, Columbus Zoo
Columbus, OH



On the Brink of Extinction: A Ngare Sergoi Journal

March 31, 1988 - Dan and I went to Nanyuki again today, this time to take two men to the doctor and to pick up the payroll for the reserve. On the way back we stopped at a place called Kentrout, an excellent place to eat and also one of the locations where you can see Colobus Monkeys. I had seen them there two years ago, but we weren't lucky enough to spot any today.

We are to leave for Nukuru tomorrow to have a look at the government rhino sanctuary there. As I mention this reserve in my talks, I want to know a little bit more about it and its plans for the future.

April 1 - Said good-bye to Anna this morning and left for Nukuru.

Went to the Abidires Mountain area to look up Peter Jenkins and drop off an empty cooking gas cylinder to be filled. Mr. Jenkins wasn't there so we left it with the warden.

Went then to the Abidires Country Club to see about a tour of the Solia ranch, that's another rhino sanctuary. They said it would cost us about a hundred dollars to see the reserve. We said "screw it" and left. Francis Dyer (Anna's sanctuary foreman) said he'd fly us over when we got back if possible.

Went on to Nukuru for the night, found a little hotel called the Mau View Lodge. It cost us ten dollars for a double per night. This hotel will never be on a tourist's itinerary; the cost even covered breakfast.

April 2 - Met an English student named Owen at the hotel who was traveling around Kenya. Gave him a lift out to the park. We had coffee, then Dan and I went to find Jock Dawson, the man who runs the rhino reserve. After alot of driving around, we found his camp but he was on safari and wouldn't be back until tomorrow. Spent the rest of the day looking around Lake Nukuru National Park, found a campsite and spent the night.

April 3 - Got up early and went back over to Mr. Dawson's camp, found both he and his wife at home. They are quite nice, we had coffee and talked at length about the reserve. The reserve cover 56,000 acres with a 78km fence, powered by solar like Anna's. At the moment there are nineteen rhino on the reserve.

It's a huge reserve and very difficult to patrol. Mr. Dawson has five rangers and two fence walkers. I hope this is enough although it seems a very small staff to protect such a large reserve.

Kenya Diary - 1988. *Continued*

The rhino have access to the whole park. I hope the animals have the sense to stay out of areas where the tourists are. But time will tell how successful this reserve will be. It is run by the government and should have the financial support to be successful. For the rhinos' sake I hope so.

Mr. Dawson had one of his rangers take us in a rover to see the entire operation. We spent about three hours traveling about the reserve. Some of the areas make great habitat for rhinos. We thanked them for their hospitality and went back to our camp.

The East African Safari, a car rally that goes all over Kenya, came by the Nukuru Park, so we parked on the side of the road and watched the race for awhile.

Tonight we stayed at a deserted camp with a Samburu man who keeps watch over it. He was great. Shared his food with us, of course it was boiled cabbage and Ugali.

Slept in an old tent that was still there. Dan woke me about 1:30 a.m. A herd of buffalo were moving by very close to the tent, kind of an unnerving sound, but we stayed very quiet and they passed us by.

April 4 - Got up early and left for Ngare Sergoi. We stopped by the wardens at Abidiros to pick up the cooking gas, but because of the holiday they couldn't get it filled.

Got back to Anna's about four o'clock. Anna informed us that Easter Sunday the vet had flown up and they darted Godot (Anna's alpha male rhino) and put him in the holding boma. I was very disappointed that I was not here for the move. Anna said she had no idea that they would do it on Easter and that was one of the reasons she thought the best time for Dan and I to go to Nukuru was over the holiday.

Although I was sorry I missed it, I am glad that it went alright, that no one was hurt, and that Godot is OK.

With him in the holding boma, Anna can now get on with weaning Samia. Anna said she was sorry I missed the knock-down but that I was lucky enough to be in on the elephant knock-down last year, something not many have an opportunity to witness. I guess that eases my disappointment a little.

April 5 - Dan is sick this morning. Anna says it is probably a slight case of malaria which he most likely picked up on the camel safari. To counteract it she gave him four malaria pills and told him to drink lots of water and use lots of blankets to sweat it out. This he is doing.

Went up to take a look at Godot in the holding boma. He seems quite calm. Fed him a sack of lucerne. Anna wants us to start crate training him as soon as the crate arrives. We're still looking for a safe place to transfer him. Whether this will be done while we're still here, I don't know.

Dan seems to be feeling less sick tonight and he ate some supper. He should be a lot better tomorrow.

April 7 - Pretty quiet here the last couple of days. Just doing the rhino watches and looking over some of Anna's notes. Anna went to Nairobi to check on Karl and see about bringing him up to Nanyuki to a nursing home. It's a lot closer to Lewa Downs.

Dan and I went to Isiolo today to get bracelets that I sell in the States to raise money for Anna. Dealing for these bracelets is a complete hassle, but I have to do it as the bracelets sell well in the States.

April 8 - Met Anna and Karl at the Nanyuki airstrip this morning. We took him to the nearby nursing home and got him settled in. A plane is to take him to Switzerland as soon as it can be arranged.

Kenya Diary - 1988. *Continued*

I have been reading reports coming in about the killing of the cave elephants in the Mt. Elgon area. These are the Kitum Cave elephants. Kitum Cave is famous as the only place in the world where elephants venture into caves for salt. The reports are saying that poachers are even killing small elephants with only five or six inches of ivory. Many reports state the poachers have begun to use sub-machine guns mounted on tops of jeeps and rovers to slaughter the elephants. They just kill the animals and take a chain saw and slice off their faces.

How long will people keep buying ivory trinkets for their own selfish egos? We in the U.S. are certainly contributing to this horrible slaughter. If people could see and smell what is done to the elephant, maybe they wouldn't buy ivory, but I doubt it. People don't care as long as it doesn't affect them, and the killing is eight thousand miles away. After all, elephant skin makes nice boots and golf bags; these are a great conversation piece.

April 9 - Left for Meru National Park today. Plan on staying about three days. Want to talk to the warden about the plans for the rhino sanctuary there.

Meru is a large remote park and probably the least visited of most of the national parks. To reach it you must drive in 30km on a very rough road. We bounced around for about a hour to get to the main gate.

The park has little huts called "bandas" that have a bush kitchen, bath and bedrooms for 140 K.S. a night, about \$10.00. Tenants have to bring their own food and necessities with them, but it's a lot more comfortable than camping and a whole lot cheaper than staying at the lodge.

We drove around the park most of the day. It's a very diverse park with some really remote areas. The foliage in some areas is almost primeval.

On the way back a ranger stopped us to ask if we had seen a tour bus. I guess it left this morning at 7:00 a.m. with three elderly people and nobody has seen or heard of the bus or passengers since. The ranger was going to get the plane and start a search. They have no water or food and one woman is not well and needs a walker to get about.

I sometimes wonder if tour companies ought to plan trips for people who are not physically fit for treks through these kinds of parks. As of 7:00 p.m. we haven't heard whether the rangers have found them or not.

To be continued....

(Note: Andy is available to give talks and a slide presentation on the Ngare Sergoi Rhino Project. If you are interested in having Andy speak to your Chapter or group you may contact him at (614) 766-3413. If you would like to make a contribution to help in the Sanctuary's work, you may send it to: Ngare Sergoi Support Group, Inc., 5814 North Meadows Blvd., Apt. D, Columbus, OH 43229. Tax-deductible contributions should be made payable to "Ngare Sergoi Support Group, Inc.")



Conference '89.....

October 1-5, 1989
Syracuse, NY



Final Call For Papers

Conference papers are being accepted on all aspects of zookeeping and animal husbandry such as diet updates, hand-rearing techniques, exhibit improvements and breedings. Good examples of these and many more papers as insights are found in many past December issues of AKF. Guidelines for typing papers and other information on paper writing for AAZK Conferences are found in the June 1989 AKF.

All Conference papers will be published in a special 1989 Conference Proceedings which will automatically be sent to all Conference delegates. Additional copies will be available for purchase from AAZK Administrative Offices for those individuals unable to attend the Conference but who wish to obtain a copy.

Papers will be limited to approximately 20 minutes with a 5 minute question/answer session. Please submit the paper outline or abstract by 15 August 1989 along with the following information.

Name of Presenter/Author
Zoo Affiliation
Position/Title
Title of Paper
Equipment Needed

Send to: Alan Baker, Burnet Park Zoo, 500 Burnet Park Drive, Syracuse, NY 13204.

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So bring any videos you might have such as "Fisher Breeding Successes" or "Sea Snake Introduction Techniques" or even your sister's wedding video! We don't care, if you bring it, we'll run it! See you Monday night in the Hospitality Room from 9:00 p.m. until ???.

1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

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Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

Is this your first AAZK Conference? ____ Yes ____ No

I will be submitting a paper ____ Yes ____ No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: ____ Yes ____ No

I am bringing an auction item: ____ Yes ____ No

(Describe briefly) _____

Vegetarian: ____ Yes ____ No (Specify type) _____

I am interested in a conference T-shirt? ____ Yes ____ No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
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Hotel Reservation Request

**1989 AAZK National Conference
October 1-5, 1989
Syracuse, NY**



Name _____

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Arrival Date _____ **Check-out Date** _____

Room Guaranteed By: _____ **Credit Card** _____ **Check**

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Check-in after 3:00 p.m. Check-out time is 12:00 noon. Telephone for Quality Inn North is (315) 451-1212. Deadline for reservations is 18 September 1989.

RETURN THIS FORM TO:

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Rules:

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2. Contestants will not be allowed to touch, smell, or otherwise manipulate samples, which will be sealed in airtight, clean plastic containers.
3. Contest will begin at 3:30 p.m. to allow all contestants to view zoo animals before taking test. No one is allowed in after 4:15 p.m.
4. Contestants may not help each other.
5. Contest is not mandatory.
6. All AAZK conference delegates are eligible to play (please wear conference badge). Burnet Park zookeepers and employees are not allowed to play - after all, they know the samples by heart.

Winners will be announced at the Banquet Thursday Night.



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SMILE! Remember This is a Photo Contest!

*Submitted by
Terry Male and Marilyn Cole
Keepers, Metro Toronto Zoo
Toronto, Ontario, Canada*

The Metro Toronto Zoo Chapter of the AAZK has finished its second annual photo contest. After two years of tearing our hair out and wanting to chop up all the pictures into little tiny pieces, we thought that telling all might help another chapter avoid the many pitfalls if they decided to go ahead anyway, and run a contest themselves.

It all started in December of 1987. After a suggestion made by one of our members - who shall remain nameless and blameless (Rick knows who he is anyway), Marilyn and I got together and tossed around some ideas as to how to go about this. Neither of us had even entered a photo contest before! Some of our first concerns were:

1. What categories to use--we decided on 5: Animals in Habitat, Zoo Animals, Humor, Zoo Staff and Landscape.
2. What formats to accept--we decided on: Color, Black & White and Slides.
3. How to pay for it--we wanted to be self-supporting in this and therefore decided on a \$2.00 entry fee per photo. This covered little more than ribbon cost in the end.

We then met with our Public Relations Director, Toby Styles, to get permission to hold the contest. The idea was very well received by him; I think he was hoping to win everything himself! The next step was to set dates, find prizes and sponsors, and work out some of the details. Marilyn and I met with Diana Orris who is in charge of the Metro Toronto Zoological Society. We set up some dates for the closing of the contest, judging and exhibition. Diana volunteered to arrange the donation of prizes. We were very grateful for her help. She did a wonderful job in obtaining prizes as well as offering advice and support.

Once the dates were set, the rules were decided upon. We settled on a maximum size of 8" x 10" (for display reasons mainly), a maximum of 5 photo entries per person, and entrants had to be staff or volunteer guides. We didn't want to narrow down the number of people who could enter and reduce the level of competition. The next job was to find some willing judges. I was lucky to have taken some photography courses in night school prior to this, so I called my teacher who volunteered his services along with those of two others.

I strongly recommend using more than one judge because no matter how many people look at a photo, there will be that many different opinions on whose is best. Three was a good number, always a tie-breaker available! My only other suggestion in this regard is to try and find judges who are willing to view the photos the way you decide is best for your contest. That is, if you want them to be easy on your entrants, or, judge them as professionals and give the photographers some higher goals to reach. There are, in my opinion, valid points to both approaches.

After these details were worked out, it was time to start collecting photos. The first year we received 74 photos, which we thought was fantastic. Response was great and the enthusiasm was encouraging. During the submission time, we worked on the ribbon order. Marilyn wrote a manufacturer with a model ribbon drawing using their catalogue as a guide and made a 'rough' order. We couldn't call in the final order until submissions were closed since we wouldn't know the final number of entries for each category. (A suggestion here--give lots of time between closing and exhibition to take care of these things--ribbons take a while to make and deliver.) We booked the Zoological Society auditorium for a week-long exhibition (10 a.m. to 2 p.m. Mon-Fri worked out well), arranged for refreshments and sent out invitations to all the big-wigs for the official opening on Monday. We arranged for staff and press photographers for the opening as well.

SMILE! Remember This is a Photo Contest! *Continued*

The photos needed to be mounted, we felt, to display them at their best advantage for judging. This was a big mistake! We spent hours cutting mat board and mounting photos. We also took slide photos of titles to exhibit all the slides entered. The judging went well, but did take about six hours to do the 74 entries.

The day the exhibition came, the photos were all displayed, the guests had all arrived, but the ribbons hadn't! They came about two hours after our official opening (due to courier problems) but were well received. The rest of the exhibition went off without a hitch.

All in all, the first year had a lot of hassles and hard work, but seemed to go over well enough to try again this year. We made a few changes--we increased the time between judging and exhibition so we would be prepared better; ordered the ribbons sooner; and mounted the photographs using a simpler technique that was almost as attractive as the mats.



Terry Male (l) and Marilyn Cole (r) congratulate Richard Johnstone, a winner in the 1989 Photo Contest put on by the Metro Toronto Zoo AAZK Chapter.

Major changes included allowing each photographer to submit as many photos as they liked (resulting in over 170 entries) and to prepare a judging sheet to give back to the photographer identifying how the picture was scored in composition, lighting, etc. and with the judges' comments as well. These were very popular. This year's contest was also opened up to AAZK Chapter members. (We had some who were not staff or volunteers, i.e., spouses of staff, that unfortunately were excluded the first year.) We also prepared a critique sheet asking what the person thought of different aspects of the contest. Some of the answers were quite surprising! Categories that we were tempted to eliminate due to poor response we will now keep in due to opinions expressed on these sheets.

This year our prizes were again donated (thanks to Paul Pinkus and Pat McCarthy for their help), with our major donor once again being Kodak. Last year's grand prize was a print donated by Kodak. This year they donated a camera. Other prizes such as film, bags, developing, trips, etc. were also won. I would like to thank Andrea and Ozzie for their help with the contest.

SMILE! Remember This is a Photo Contest! *Continued*

In summary, I'd like to say that although a photo contest is a lot of work, the participants really enjoyed themselves and I think that AAZK's image has been enhanced within our zoo.

If anyone would like to find out more details, feel free to write to:

Terry Male
Metro Toronto Zoo
P.O. Box 280,
West Hill, Ontario
M1E 4R5 Canada



A.A.Z.K. Belt Buckles

The San Diego Zoo AAZK Chapter still has a limited supply of these high quality, solid brass belt buckles in the small size (fits a 1" belt). The buckles feature the official AAZK Rhino Logo.

The Chapter plans to terminate this project after the '89 Conference so **ORDER NOW!** They will be collector's items thereafter!

Cost per buckle is \$16.00 plus \$1.80 each for shipping & handling. Send your name, full mailing address and number of buckles desired along with a check or money order made payable to "San Diego AAZK Chapter" to:

AAZK Belt Buckles c/o Terri Schuermann
San Diego Wild Animal Park
155500 San Pasqual Valley Road
Escondido, CA 92027



Nixon Griffis Fund for Zoological Research Awards Nine Grants

The Nixon Griffis Fund for Zoological Research (NGFZR), established in 1984 by New York Zoological Society Trustee Nixon Griffis, awarded nine research grants on 9 May 1989. The recipients were:

Kate Baker and Susan McDonald, University of Michigan
"Videotape Analysis of Captive Chimpanzee Introductions"

William J. Boever, DVM, and Cheryl S. Asa, PhD, St. Louis Zoo
"Telemetric Monitoring of the Ovulatory Cycles of Cheetahs and Orangutans by Changes in Basal Body Temperature and Activity Level"

Michael Briggs, DVM, Russell Roach, and Claire Fithian
Wildlife Safari, Winston, Oregon
"Determining the Estrous Cycle in a Group of African Elephants by Evaluating Serum Estrogen Levels"

Alejandro Grajal, University of Florida, and Chris Sheppard, PhD, New York Zoological Society
"Nutritional Requirements of the Hoatzin (*Opisthocomus hoazin*) for a Transition to Captive Conditions"

Sherri L. Huntress, DVM, Nadia M. Loskutoff, and Bonnie L. Raphael, DVM, Dallas Zoo
"In Vitro Fertilization and Gamete Intrafallopian Transfer in the Western Lowland Gorilla (*Gorilla gorilla gorilla*)"

Michele Miller-Edge, PhD, DVM, and Michael Worley, San Diego Zoo
"Characterization of the Cheetah Immune System: In Vitro Lymphocyte Responses to Mitogen and Antigen"

Edward C. Ramsay, DVM, University of California at Davis
"Development of Enzyme Immunoassays for the Diagnosis of Pregnancy in Endangered Perissodactyls"

Leslie Saul and Thomas Turowski, San Francisco Zoo
"A Study of the Reproductive Biology and Husbandry of: the Yellow-veined Leaf-footed Bug (*Thasus acutangulus*), the Costa Rican Predaceous Katydid (*Lirometopum coronatum*), the Southwestern Hercules Beetle (*Dynastes granti*), the Kenyan Tailless Whip Scorpion (*Tarantula sp.*)"

Martin S. Wilder, PhD, and Barbara B. Bonner, University of Massachusetts at Amherst
"Studies on the Bacteriology and Phagocytic Cells of the Red-eared Slider Turtle (*Trachemys scripta*)"

Nixon Griffis Fund for Zoological Research grants are available to members of the zoo and aquarium community. Fund recipients may be keepers, curators, veterinarians, or research and consulting biologists. Grants, not to exceed \$3000, are awarded semi-annually. Closing periods are **1 January** and **1 July** of each year. For information about the Fund and grant application procedures, contact John Behler, Coordinator, Nixon Griffis Fund for Zoological Research, c/o New York Zoological Society, Bronx Zoo, Bronx, NY 10460.





Book Review

Chipmunks and the Siberian Chipmunk in Captivity

By K. Elizabeth Gillett

1988 Bassett Publications, North Hill, Plymouth, S. Devon, England.

32 pgs. Paperback. Price £3.50

*Review By Blair Neuman
Nursery Supervisor
The Feather Farm, Inc.
Napa, CA*

When I first volunteered to do a review, and the above book was offered, I must admit I was intrigued...chipmunks...in Siberia? My curiosity was indeed piqued by the thought of these noble creatures traipsing about the snow-covered netherlands of Siberia. And then the slim work arrived in the mail, and I was off and reading!

Considering the diminutive size of this book, a lot of important information is covered, including: the three sub-genera, their distinguishing characteristics and distribution; physiology; behavior; reproduction; and management. Common health problems are addressed, as well as a brief discussion of the treatments to be followed. I definitely would have liked to have seen this section expanded, but perhaps that's asking a bit much from a book that covers such a wide range of topics in an attempt to be a complete guide to the keeping of these little fellows.

Chipmunks are very active and energetic; therefore, it's essential to prevent boredom and to provide a large enough enclosure so that the animal(s) can get enough exercise. Ms. Gillett provides excellent information on putting together nestboxes, as well as indoor and outdoor cages (all nice and roomy). Small cages and no entertainment can result in stereotypical behavior. It doesn't take very much to amuse a chipmunk as they are naturally curious. Even a piece of cloth can provide endless hours of enjoyment.

These little guys are diurnal and solitary by nature, and very aggressive about defending their territory. Because of this, they are best kept singly, in pairs, or house one male with two females. Wherever they are found in the wild, they are a main food source for all carnivores. Their only real defense is their alertness and speed. For this reason, it's essential that in captivity chipmunks are kept in the most stress-free environment possible. A definite routine should be established and followed; the constant stresses that arise from changing surroundings can kill a chipmunk. They're expert escape artists---particularly since they can squeeze through very small openings--so care must be taken to be certain that the enclosure is secure. And if one does manage to get loose, their territorial nature usually ensures their return.

Chipmunks primarily feed on (and store) seeds, vegetable and plant matter and will occasionally take insects or other sources of protein. As one can assume from the harsh environments that some chipmunks inhabit, they are pretty hardy souls. During the winter, they will enter a state of torpor that lasts from three to five days. In captivity, chipmunks housed indoors in colder areas will follow this pattern. However, the author points out that those that don't are healthier and survive better.

I enjoyed reading this book, but I'm also a known fan of small woodland creatures. Ms. Gillett's coverage is extensive enough to enable me to recommend her work to anyone considering developing a chipmunk exhibit at a zoo, or in their own backyard. I'd think that anyone currently keeping chipmunks would want to read this simply to further their own knowledge. This woman convinced me...I WANT ONE.



Chapter News

AQGAZ - the French-speaking Zoo Keepers Association in Quebec

Although not a chapter of AAZK, the AQGAZ, recently submitted the following information on what their association has been doing. We are pleased to share it here with all AAZK members.

The year 1989 has already been an eventful one. Besides our regular monthly meetings, we had conferences given by some of our keepers.

In late January, I gave a talk on my 16-week training course at Jersey Zoo on "Captive Breeding of Endangered Species & Conservation". Slides represented the animal collection, facilities at the zoo along with a ten-day tour of England.

Sylvain Fortin showed us his video on the "Animal Park of Courzieu", France & the "Bird of Prey Show". We were all delighted to see hunting techniques of some European raptors.

Our annual meeting was held in April. Business was discussed including sending a grant to the Phillipine Eagle Conservation program. Newly elected officers for 1989 are as follows:

President.....Pierre Poirier
Treasurer.....Sylvain Ethier
Secretary.....Chantal Routhier
Training Committee..Linda Boudreau
Special Projects Committee....
Jeannot Blanchet
International Relations Committee....
Rose-Marie Chretien
Zoonal Committee..Alain Fafard

In early May, Jeannot Blanchet and Sylvain Ethier showed us their slide presentation on their two-month visit to Australia and New Zealand.

--Rose-Marie Chretien
International Relations Officer

Greater San Francisco Bay Area AAZK Chapter

The following is taken from *Species*, the newsletter of the GSFBA Chapter:

The Nature Conservancy Grants \$10,000 to the GSFBA Ecosystem Survival Plan

The Nature Conservancy is investing \$10,000 in venture capital toward the development of the prototype converted parking meter for the Ecosystem Survival Plan Program (ESP). Geoff Barnard, the director of international programs in Washington, DC, visited the Bay Area to discuss the details of the parking meter plan and to award the grant. The funds will be used for the design, development, and fabrication of a dozen or more parking meters. Phase-I will be the installation of the meters at Chapter institutions in addition to other western zoos such as Santa Barbara, Fresno, and Seattle.

The Nature Conservancy is nationally and internationally recognized as a world leader in the preservation and protection of imperiled habitats of threatened and endangered species around the globe. To date, The Nature Conservancy has protected over three and a half million acres and manages thousands of preserves...the largest privately owned nature preserve system in the world.

The GSFBA-AAZK Ecosystem Survival Plan will essentially become a partner in conservation with The Nature Conservancy. The combined efforts allow us to truly effect, impact, and involve thousands and, hopefully, millions of people who visit zoos annually. The public will be able to personally participate by placing quarters, dimes, and nickels in the ESP parking meters. Spare change that spares the forest. Accompanying graphics will be designed that tells the story of imperiled biological diversity and how giving change will make a change. The meters will entice, involve, and move people to action.

Once the meter has been pilot-tested, our goal will be to seek funding to produce enough meters to be placed in zoos across the country, putting zoos in partnership

Chapter News. *Continued*

with conservation and the Ecosystem Survival Plan. The potential to raise over one million dollars a year for conservation and habitat purchase will become a reality!

Thank you to The Nature Conservancy for creating the opportunity for real change.

*--Norman Gershenz, President
GSFBA Chapter*

Los Angeles AAZK Chapter

The officers of the AAZK-LA would like to express their gratitude to all members and friends who attended and/or otherwise contributed to the success of our May meeting featuring Andy Lodge. Through your warmth, compassion and generosity, we were able to raise a total of \$1800.00 for the Ngare Sergoi Rhino Preserve.

The L.A. Chapter and Ngare Sergoi Rhino Preserve are fortunate, indeed, to have such good friends. Thank you all for a successful and enjoyable evening!

The guest speaker for our June meeting was Susie Kasielke, who gave us an update on the California Condor Project. For the past year, working as a curatorial assistant, Susie has been very closely involved with not only the California Condor Project, but also the artificial incubation and subsequent puppet-rearing of Andean Condors for both the California and Andean Condor Release Programs.

Projects in the works include the adoption of keepers from the Belize Zoo and the Jurong Bird Park, Singapore and either a Bowling for Rhinos or a Winos for Rhinos wine and cheese tasting party to raise additional funds for the Ngare Sergoi Rhino Preserve.

--Kim Brinkley, Chapter Liaison

Bronx Zoo Chapter AAZK

In May, our Chapter took a field trip to the newly renovated Central Park Zoo. Our guides were supervisors Bruce Foster

and Anthony Brownie. CPZ is laid out in biomes - the tropic zone, the temperate zone, and the polar zone.

Our Chapter voted to buy a radio to donate to the Jaguar Reserve in Belize. When Mark Hofling, BZC President, and Wendy Worth, BZC Liaison were staying there in February they asked Ernesto, the director, if there was something BZC-AAZK could do to help the Preserve and one of his suggestions was a radio to report sightings by rangers of animals and of loggers and poachers. We were able to give it to him in person when he was visiting the Bronx Zoo to visit Alan Rabinowitz, the Wildlife Conservation International field scientist who originally set up the reserve.

William Conway, New York Zoological Society's General Director, has been incredibly supportive of our Chapter. Earlier this year he gave us a headquarters office which he had renovated and painted. This month he gave the Chapter his IBM computer and laser printer. The keepers certainly appreciate his generosity. Steve Johnson, Librarian; John Kiseda, Principle Wild Animal Keeper and former AAZK President; and Jerry Stark, Wild Animal Keeper, comprise our computer committee and are going to teach us how to use the computer. Steve Johnson also donated a magazine rack to AAZK headquarters which he is keeping filled with zoological periodicals. Things are looking great.

Alison Blatz, Wild Animal Keeper, is getting everyone excited about our upcoming barbecue. She is organizing "Zoolympics" and games. Other members are gathering donations for the silent auction; while still others are planning the food. It will take place on 20 July and we hope some of you will be able to attend. Please contact us if you will be in the area and plan to attend: Bronx Zoo Chapter-AAZK, 185th and Southern Blvd., Bronx, NY 10460.

--Wendy Worth, Chapter Liaison

Chapter News. *Continued*

AAZK Welcomes Two New Chapters

AAZK is pleased to welcome two newly formed Chapters into the Association.

Utah Chapter of AAZK

Mailing address is Utah Chapter of AAZK, Hogle Zoo, 2600 Sunnyside Ave., Salt Lake City, UT 84108. The Chapter is made up of members from both the Hogle Zoo and the Willow Park Zoo in Logan, UT.

Newly elected officers for the Utah Chapter are:

President.....Bob Dolan
Vice President.....Jane Larson
Secretary.....Barbara Boon
Treasurer.....Susan Hamel
Board Rep.....Cavett Eaton

Chinook Chapter AAZK

Includes members from the Calgary Zoo. Their mailing address is: Chinook Chapter AAZK, Calgary Zoo, P.O. Box 3036, Station B, Calgary, Alberta, Canada T2M 4R5.

Newly elected officers are:

President.....Mona Keith
Vice President.....Pam McDougall
Sec/Treas.....Elaine Willms
Chapter Liaison.....Garth Irvine

Cheyenne Mountain Chapter

Our second annual Mardi Gras fundraiser was held on 10 March 1989 at the Airport Raintree Inn. Fresh boiled crawfish was flown in for the occasion and served with authentic Cajun cuisine. Nancy Adams, from Environmental Photography, Inc., donated the proceeds from the sale of her original photographs and posters to our Chapter. We raised over \$500.00, which will be used to renovate exhibits at the Cheyenne Mountain Zoo's Bird and Reptile House. AAZK members will be donating their time and efforts for these renovations. Another Chapter project to benefit from the fundraiser will be the expansion of our keeper resource center.

Our Chapter has also become involved in the recycling of the zoo's recyclable products, i.e. bleach bottles, glass bottles, cans, etc. Drop-off points have been established for Docents, employees and anyone else interested in contributing to this project. All proceeds are donated to the Cheyenne Mountain Zoo Conservation Fund.

--Nanette Bragin, Chapter Liaison



TDC and BBC to Co-Produce Safari Live! Africa Watch

The Discovery Channel (TDC) and BBC Enterprises have announced their joint co-production of an unparalleled television event this September -- live from Kenya, Africa -- titled, *Safari Live! Africa Watch*. The program will be transmitted via satellite from the Masai Mara in Kenya to the United States and the United Kingdom over the weekend of September 22-24, focusing on the spectacular annual migration of wildebeest and other rich wildlife of Africa. TDC and BBC will each telecast exclusive feeds from Kenya, featuring a combination of live and pre-recorded material designed to produce the most comprehensive and revealing insight into the wildlife community of one of the most beautiful corners of East Africa.

The live feeds are scheduled to coincide with the times of the day when animal activity is at its peak; the hours following dawn and preceding dusk are critical for predators and prey. It is during these times that the camera will seek out and capture the real life action and drama that are part of the Masai Mara's daily cycle.

Seven cameras will be used in the live productions, five of which will be mounted on moving vehicles. Two cameras will be in fixed locations, one of which will be mounted nearby a hazardous swamp area and the remaining camera mounted on a ridge where the show's presenters will be located. Presenters will deliver live commentary throughout all programs; no dialogue will be pre-recorded.



Non-Domestic Neonatal Husbandry and Medical Care Conference

Summary of Proceedings

By
J.E. Oosterhuis, D.V.M.
Director, Veterinary Services
San Diego Wild Animal Park
Escondido, CA

The first ever Zoological Society of San Diego Neonatal Symposium was held in the Conference room at the Wild Animal Park Hospital on 1 March, 1989. Papers were presented by personnel from the Children's Zoo and Veterinary Services Department at the San Diego Zoo, the Animal Care Center, Infant Isolation Unit, and Veterinary Services Department at the Wild Animal Park. Twenty-seven people from the above departments were in attendance for the all day symposium.

Topics included historical perspectives of the facilities that hand-rear infants; special rearing techniques; diets; handling the weaned individual and behavioral observations of infants. Medical and sanitation problems were also addressed and the final report of the day urged everyone to share our wealth of knowledge with the rest of the zoo world.

It is hoped that this conference will be the start of a continuing exchange of information between departments in order to better care for the infants entrusted to us.

The active participation of all in attendance showed a desire to report on the information we now have and the interest to learn new techniques through sharing information and developing individual projects to better understand the intricacies of hand-rearing neonates.

Section 1

History of the Animal Care Center's Hand-Rearing Program

Terry Blakeslee - Lead Keeper, Animal Care Center

Since the Wild Animal Park opened in May 1972, approximately 1,374 animals, representing 82 species, have been successfully hand-reared at the Animal Care Center. Through the years, the majority of these animals have changed from those brought in for health reasons to those brought in for future shipment. Currently, the ACC keepers raise 80 to 90 animals per year, of which approximately 70% are for shipment.

Neonatal diarrhea has contributed significantly to the mortality rate in the past. Several studies have been done in an attempt to identify and solve the problem. The mortality rate has steadily decreased since 1983, when sub-cutaneous fluid therapy was initiated.

Overview of the Wild Animal Park's Animal Care Facility

April Silidorff - Senior Keeper, Animal Care Center

The Animal Care Center facility is primarily designed for the hand-rearing of hoofstock neonates. The various sized stalls in the two main buildings include isolation areas for stabilizing new arrivals before moving them to larger "on" and "off" public viewing stalls. Each of these have non-slip flooring, heat lamps, and blinds that can be rolled down enclosing them for added protection during the cooler months.

The facility includes a spacious barn, supply rooms, office, counters for food preparation and refrigerators for milk formulas. A small medical treatment room equipped to handle minor procedures is also adjoining the facility.

SDWAP Neonatal Symposium: A Summary, Continued

The remainder of the grounds are outdoor and surfaced with decomposed granite. These areas, divided into varying sizes, provide the necessary space to assure that each youngster receives a proper amount of daily exercise, sunshine, and socialization with other animals before leaving the Animal Care Center to successfully rejoin our herds in the park's large field enclosures or to be shipped to zoos and facilities all over the world.

Impact of Raising Non-Ungulate Neonates at the Animal Care Center

Michelle Gaffney - Senior Keeper, Animal Care Center

Since the Animal Care Center is primarily designed for managing hoofstock, rearing other types of neonates (primates, carnivores, etc.) can have considerable impact on the Animal Care Center's normal operations. Teamwork and flexibility become real necessities, in order to care for the neonate and complete all the work in other areas. Often times schedule changes require unusual work hours to cover babies needing 24 hour care.

Incidence and Illness Associated with *Salmonella Sp.* and *Campylobacter Sp.* at the San Diego Wild Animal Park Animal Care Center and Infant Isolation Unit

Philip K. Ensley, D.V.M., Assoc. Veterinarian - San Diego Wild Animal Park

In mid-1988 at the Animal Care Center, two cases of diarrhea in neonatal hoofstock occurred in which *Salmonella sp.* was isolated. About the same time in the Infant Isolation Unit, *Campylobacter sp.* was isolated from a neonate with diarrhea. One of the two animals at the Animal Care Center, an impala, died. Necropsy lesions were compatible with a severe enteritis.

Rectal swabs were subsequently taken from 51 hoofstock neonates entering the ACC and IIU on days 1, 8 and 15, during a 4-month period. *Salmonella sp.* was isolated in 13 neonates, 2 of which also had *Campylobacter sp.* isolated. *Campylobacter sp.* was isolated by itself in one neonate.

Incidence of diarrhea was evaluated in the presence of these isolates. Strategy for supportive care with or without antibiotics was considered. There were no fatalities among these infants.

Section 2

Composition and Formulation of Impala (*Aepyceros m. rendilis*) and Domestic Water Buffalo (*Bubalus arnee f. bubalis*) Diets

Karla J. Michelson - Lead Keeper, Infant Isolation Unit

Two case histories were presented that involved the positive results created by utilizing diet analysis information and its application. The survival rate of hand-raised impala and one hand-raised domestic water buffalo were greatly increased since 1986 due to meeting specific nutritional needs through investigation of each species individual requirements.

An effort needed to encourage others in our field to research and use available data to develop preferable substitute formulas that will more closely resemble the natural milk of various mammalian species. In the end, this will benefit the survival and propagation of many species being hand-raised worldwide.

Increasing the Odds of Survivability for Hand-Reared Neonates Using the "Graduation Pen Technique"

Debra Espinoza-Bylin - Keeper, Infant Isolation Unit

Data has shown that age seems to be a critical factor in neonate survival rates upon release into large multi-species field enclosures.

Neonate hoofstock released directly after weaning from small enclosures to large field enclosures before four months of age had a 66% mortality rate during the first year after

SDWAP Neonatal Symposium: A Summary, Continued

release. By providing the young animals with an intermediate area to mature both mentally and physically before release, the odds of surviving into adulthood have been substantially increased

Applying Behavioral Observations to the Hand-Raising of Neonates

Esther Rubin - Keeper, Infant Isolation Unit

This talk was aimed at encouraging those hand-raising neonates to undertake a behavioral observation project (or to use the results of one) and how to go about setting one up. Observations of mother-reared infants was emphasized as an important source of information that can be applied to hand-raising techniques. Examples of information that can be obtained were presented with situations in which each might be applied.

Obstacles that might be encountered by researchers were discussed and possible solutions offered. Examples of a complete ethogram and several alternative sampling methods were presented and the pros and cons of these methods were pointed out.

A Comprehensive Review of Fluid Therapy for Animal Care Staff at the San Diego Wild Animal Park

Jack L. Allen, D.V.M. - Assoc. Veterinarian San Diego Wild Animal Park

A variety of medical diseases and surgical complications can result in potentially lethal alterations of body fluid, electrolyte, and acid-base balance unless appropriate therapeutic measures are taken. The recognition and management of fluid and electrolyte disorders are dependent upon a knowledge of the physiologic processes governing fluid and electrolyte homeostasis. In this review, guidelines for such an understanding were presented for the animal care staff at the Wild animal Park.

Section 3

Historical Perspective of Children's Zoo Nursery System A 30-Year Learning, Evolving, Every-Changing System

Jean Hock - Lead Keeper, Children's Zoo

Zoo priorities of the pre-1960 era were geared primarily toward display of unique animals. Little emphasis was placed on hand-raising animals. Today, the future of many species may depend on our ability to hand-rear animals to insure that as many individuals as possible contribute to the gene pool.

Hand-Rearing of Mhorr Gazelles (*Gazella dama mhorr*) on Display in a Family Group

Boo Shaw - Senior Keeper, Children's Zoo

In order to eliminate traumatic re-introductions of nursery reared Mhorr gazelle neonates to a herd situation, a program of bottle feeding utilizing a clicker to attract the neonate from the herd has been used successfully.

Section 4

Disinfectant and Sanitation Procedures

Donald L. Janssen, D.V.M. - Director, Veterinary Services Dept., San Diego Zoo

The importance of disinfection and hygiene was discussed in relation to caring for neonatal animals. Sanitation techniques and theory such as bacterial growth curves, the role of cleansing before disinfection, footbaths, and the problems of disinfecting wood was reviewed. Properties of common disinfectants including quaternary ammonias, phenolics, bleach, tamed iodines, and chlorhexidine were summarized.

Giardiasis, A Commonly Encountered Zoonotic Disease

Janet Hawes - Nursery Attendant, Children's Zoo

Giardiasis has been a recurrent in-house problem at the San Diego Small Animal Nursery facility. Discussion included the cause, treatment, and prevention of the disease as well as recognition of symptoms both in animals and man.

Spreading the Word

Terry Mulrone - Manager, Children's Zoo

It is time for us to share our information with the rest of the zoo world, and to spread the news of our successes. We hand-raise an impressive number and variety of species. We have information, experience, and knowledge which should be shared and recognized. Many of us do not give ourselves credit for our efforts, but by studying the many journals and publications available we can see the potential for us to publish our experiences. This puts us in contact with other zoos and efforts in our field, so that we can exchange ideas and grow together.

Editor's note: The above are summaries of the presentations given at the San Diego Wild Animal Park Neonatal Symposium. If you would like further information on the symposium or on a particular topic covered, please contact: Karla Michelson, Lead Keeper, Veterinary Services Dept., San Diego Wild Animal Park, 15500 San Pasqual Valley Road, Escondido, CA 92027-9614.



POTPOURRI--Tidbits of information on publications available, conservation programs, recycling projects, educational items, etc.

Submitted by Barbara A. Birney, Ph.D.

*Research and Evaluation/Education and Planning
Brookfield Zoo, Brookfield, IL*

• A unique program aimed at 8-13 year olds and entitled "A Rain Forest Child" has been developed by Sue Lyle and Maggy Roberts, Centre for Development Education, DyFed. For more information contact: SDEC, Old Playhouse Close, Moray House College, Holyrood Road, Edinburgh, EH8 8AQ, U.K.

• A timely and objective publication entitled Persistent Marine Debris: Challenge and Response offers a clear perspective and helpful definitions of environmental issues related to marine mammal health. This publication may be especially helpful to staff designing exhibits and educational materials. Up to 25 copies may be obtained free and further information about cost on additional copies may be obtained from Kurt Byers, Communications Manager, University of Alaska Fairbanks, Alaska Sea Grant College Program, 138 Irving II, Fairbanks, AK 99775-5040, or call (907) 474-7086.

• The National Association for the Advancement of Humane Education has rain forest materials available for young and intermediate learners. Contact NAAHE, P.O. Box 362, East Haddam, CT 06423.

• Staff interested in promoting local recycling efforts for communities may be interested in an all-day methods workshop detailing how recycling can become a reality. For more information, write to: North Shore Ecology Center, P.O. Box 184, Highland Park, IL 60035.



Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Arctic National Wildlife Refuge oil exploration on hold

Legislation intended to open up the Arctic National Wildlife Refuge (ANWR) to oil and gas exploration will most likely be delayed as a result of the March 24th tanker accident in Prince William Sound in Alaska.

The ANWR was one of the major public lands/energy issues of the last session of Congress, with one side seeking to open the refuge to exploration for important energy reserves and the other side seeking to declare it a wilderness area safe from exploitation. Supporters wasted little time at the start of the 101st Congress in re-introducing the issue.

On the first day of the 101st Congress, House Interior Committee Chairman Morris Udall (D-AZ) introduced a bill to obtain wilderness designation for the 1.5 million acre coastal plain of the refuge. The bill is identical to Udall's H.R. 39 from the last Congress; in fact, it has been given the same number this time around. Alaska Rep. Don Young also re-introduced his bill to open up the coastal plain to oil and gas development. This bill was labeled H.R. 49.

In the Senate, William Roth (R-RI) and Bill Bradley (D-NJ) brought back their Arctic wilderness bill, S. 39, on 25 Jan., the first day that legislation could be introduced in the Senate. Another bill, S. 406, introduced later by Sen. J. Bennett Johnston (D-LA) has cleared the committee and is awaiting floor action.

On 23 March, Rep. Walter Jones (D-NC) introduced a development bill (H.R. 1600) that is nearly identical to legislation approved last year by the committee on a 28-13 vote. (Although the bill was approved by the committee it never made it to a floor vote.) Jones calls his bill a compromise measure that would moderate the impact on wildlife and the environment by including provisions that would: a) exclude a 260,000-acre "Protective Management Zone" for caribou calving; b) create a 23.5-million-acre North Slope wildlife refuge to the west of Prudhoe Bay in the National Petroleum Reserve; and c) dedicate a portion of any Arctic Refuge revenues to fisheries and wildlife programs.

Environmentalists, however, are concerned that the bill, in spite of the compromise provisions, opens up a pristine wilderness to full-scale development. Their arguments were given added weight by the Prince William Sound spill which, ironically, occurred the day after Rep. Jones introduced H.R. 1600.

> *From Sierra Club Bulletin (electronic version on EcoNet, 2 Feb., 15 Mar., 19 Apr 1989) and Chicago Tribune (2 Apr. 1989).*

Capture of bottlenose dolphins halted pending further study

On 12 April, the Marine Mammal Commission announced that it was no longer issuing permits to capture Atlantic bottlenose dolphins (*Tursiops truncatus*) in the waters of the Gulf of Mexico pending the outcome of public hearings that were held on 18 April.

Legislative Update. *Continued*

The hearings, held by NOAA Fisheries (NMFS) to gather information on the present system of permits and quotas used to regulate dolphin capture, resulted from concerns over a permit request from Ouwenhands Zoo in the Netherlands to take four dolphins for exhibit purposes. The Animal Protection Institute (also representing the Humane Society of the U.S., Greenpeace, and several other organizations) petitioned the NMFS to deny the permit until further data is available on the effect of capture on the overall dolphin populations.

The factors that the API mentioned in the hearing petition are: the lack of accurate population data, determination of the optimum sustainable population (OSP), the validity of the 2% (of the population) quota, adequate monitoring of other actions that result in removal of dolphins from the population (e.g. drowning in fishing nets, deaths from oil contamination, etc.), inclusion of incidental take in the 2% figure, annual adjustment of quotas, evaluation of the potential for brevetoxin (red tide) poisoning among Atlantic populations.

Testimony was given at the hearings by representatives of the Ouwenhand Zoo, the Marine Mammal Coalition, the Marine Mammal Interest Group, AAZPA, Brookfield Zoo, Sea World, National Aquarium, Animal Protection Institute, Greenpeace, Humane Society of the U.S., Sierra Club Legal Defense Fund, and the Sea Shepherd Society.

>From AAZPA Legislation Committee

U.S. Considering New Measures to End Illegal Ivory Trade/Vows to Support Proposed CITES Ban on International Trade

On 9 May, Secretary of the Interior Manuel Lujan Jr., announced that the U.S. will support the international ban on commercial trade in African elephant ivory at the October meeting of the 101-member-nation Convention on International Trade in Endangered Species (CITES). Because Lujan feels there is no solution to the elephant problem without the full participation of the African nations that have elephants, the Department is providing \$15,000 to send African representatives to a meeting of the CITES Elephant Working Group to be held this month. These representatives will assist the Group in developing elephant conservation plans.

"If, prior to the October 10 meeting, the Department receives new information to indicate an emergency ban on all commercial imports is appropriate and necessary for the conservation of the African elephant, we will move expeditiously to review that information and determine whether current regulations need to be amended," Lujan said.

Lujan also announced that the U.S. is considering additional trade restrictions to halt the importation of African elephant ivory. "We have already banned ivory imports from more than 70 countries, including Somalia, and are on the verge of extending the import ban pursuant to the Elephant Protection Act. I am outraged over the illegal poaching of African elephants and the level of ivory imports into certain countries. I urge others to do as the U.S. is doing in banning importation of ivory from countries that do not have elephant populations. We have reason to believe that some of this ivory is from illegal trading and that the commercial trading is out of control."

>From Department of the Interior News Release



CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Chapter and Regional Affairs Committee - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 {h}.

REGIONAL COORDINATORS

Elandra Aum, Woodland Park Zoo, 5500 Phoney Ave. North, Seattle, WA 98103 {206} 625-2244 [w]
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Art Goodrich, San Diego Zoo, Box 551, San Diego, CA 92112
for the States of CA, NV (South Pacific Coast)

VACANCY for the States of ID, MT, WY (North Mountain)

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VACANCY for the States of ND, SD, MN, NE, IA (North Plains)

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for the States of IL and WI (Great Lakes Region)

Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, MetroParks Zoos, Franklin Park Zoo, Pierpoint Rd., Boston, MA 02121 AND
Mark Hofling, Bronx Zoo, 185th St. & Southern Blvd., Bronx, NY 10460 (212) 220-7115 {w}
(212) 543-2753 {h}
for the States of ME, NY, VT, NH, MA, CT, and RI (North Atlantic Coast)

Jon Brangan, Virginia Zoological Park, 3500 Granby St., Norfolk, VA 23504 {804} 441-2374 [w]
{804} 480-2606 [h]
for the States of PA, NJ, DE, MD, VA, WVA, and District of Columbia (Mid-Atlantic Coast)

VACANCY for the States of TN, NC, SC, GA, AL, MS (South Atlantic Coast)

Vikki Bohnert, 3515 Cobblewood Ct. # 17, Winter Park, FL 32792 {407} 678-0879 [h]
for the State of Florida

VACANCY for the State of Alaska

Dan Vitiello, Honolulu AAZK Chapter, Honolulu Zoo, 151 Kapahulu Ave., Honolulu, HI 96815
for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada {204} 489-3893 [h]

Dean Treichel, Valley Zoo, Box 3259, Edmonton, Alberta, Canada T5J 2R7
for the Provinces of Alberta and British Columbia, Canada (403) 483-5525 [w]



AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

AAZK Accessories and

Where to Order Them



AAZK Stickers & Auto Decals: the official AAZK logo in sticker form is available from the AAZK Appalachian Chapter. Suitable for any smooth, hard surface. There are two sizes available - 2" x 3" stickers are \$1.50 and 1" x 1 1/2" are \$.75 each. The auto decals measure 5" x 3" and are \$2.50 each. Please send your order along with payment to: AAZK Sticker/Decals, Mill Mountain Zoo, P.O. Box 13484, Roanoke, VA 24034. Please make checks payable to: AAZK Appalachian Chapter.

AAZK License Plates: the official AAZK logo with the American Association of Zoo Keepers on the license plate is available from the Detroit AAZK Chapter. The cost is \$2.50. Make checks payable to and send to Detroit AAZK Chapter, P.O. Box 39, Royal Oak, MI 48205.

AAZK Coffee Mugs: these beige porcelain mugs display the AAZK logo design in dark brown. The cost is \$5.50. Make checks payable to and send to: Milwaukee AAZK Chapter, 10001 West Bluemound Road, Milwaukee, WI 53226.

AAZK T-Shirts and Sweatshirts: the price for T-shirts is \$7.00, which includes postage. The T-shirts are available in tan, blue and brown in sizes S, M, L, and XL. The material is 50/50 polyester/cotton. The AAZK logo is located on the left front pocket area of the shirt. The sweatshirts are 50/50 poly/cotton in grey with the AAZK logo in black. They are available in sizes M, L and XL. The price per sweatshirt is \$15.00 plus \$3.00 for shipping. Please send your order along with payment to: AAZK T-Shirt/Sweatshirt, c/o Maria Schmude, AAZK Little Rock Chapter, #1 Jonesboro Drive, Little Rock, AR 72205. Please make checks payable to AAZK Little Rock Chapter.

Available from AAZK Administrative Offices are the following items:

Pins and Charms: enameled three-quarter inch pins and charms with the official AAZK logo are done in the same colors as the AAZK patch. The charms are suitable for necklaces. Price per pin or charm is \$3.50.

Patches: AAZK patches featuring the rhino logo are available for \$3.00 each.

AAZK Membership Directory: available for \$4.00 for members; \$7.00 for nonmembers.

Zookeeping As A Career Brochures: \$10.00 per hundred plus postage. Send requests to Administrative Office and you will be billed for brochures and postage. (For a single copy, send a self-addressed stamped legal-sized envelope.)

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKF, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted.

ELEPHANT KEEPER...position available in new, natural habitat exhibit. Each candidate must have one year of elephant management experience. Under direct supervision of a Senior Keeper and/or Curator. Send resume to: Personnel Department, Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217.

AVICULTURAL BREEDING /RESEARCH CENTER...has positions available: requires experience and ability to discern health/diet problems. Responsible for cleaning, feeding and caring for cockatoos and macaws, including maintenance. Salary \$13,000-\$16,000. On-site housing available. Send resume or call: E. Trent Swigert, Manager, Avicultural Breeding Center, 1471 Folsom Road, Loxahatchee, FL 33470 (407) 793-5135.

KEEPER-GUIDE...full-time position available caring for small and large mammals and reptiles and speaking to the public. Must have good communication skills and a neat appearance. Beginning salary \$12,870 per year and health insurance. Submit resumes **by 1 September 1989** to: Soco Gardens Zoo, Jim Miller, Route 1, Box 355, Maggie Valley, NC 28751.

EXECUTIVE DIRECTOR...Florida Conservation Foundation, a non-profit educational organization, is seeking a new Executive Director; the current director will be retiring in March 1990. Duties include fundraising, directing educational projects, producing newsletters and other publications, and conducting conferences. For more information, contact: Search Committee, Florida Conservation Foundation, Inc., 1191 Orange Avenue, Winter Park, FL 32789 or phone (407) 644-5377. Deadline for application is **31 August 1989**.

VETERINARY TECHNICIAN...responsible for care of hospitalized and quarantined animals, lab procedures, ordering and inventory of supplies, assisting veterinarian and office work. Experience required; Vet Tech degree preferred. Salary \$12,250 - \$14,850. Send resume to: Susan Wells, DVM, Audubon Park Zoo, 6500 Magazine Street, New Orleans, LA 70118.

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World Wildlife Fund Conservation Award



World Wildlife Fund is requesting nominations for the 1989 Conservation Award to be presented to an AAZK Chapter for its contributions to conservation. The selection will be based on the significance and impact of the Chapter's conservation project(s). Nominations should include a description of the project(s) along with reports, articles, press clippings, etc., that the project(s) produced. These projects can encompass education, research, or fund-raising for conservation activities. The nominated project(s) should be AAZK Chapter initiated and supported.

Please submit nominations to: *Rich Block, Director of Public Programs
World Wildlife Fund
1250 24th Street, N.W.
Washington, DC 20037*

The deadline for submitting nominations is 15 August 1989.

AAZK Membership Application

Name _____ Check here if renewal []

Address _____

_____ \$25.00 Professional
Full-time Keepers

_____ \$20.00 Affiliate
Other staff & volunteers

_____ \$25.00 International
All members outside the
U.S. & Canada

_____ \$15.00 Associate
Those not connected
with an animal facility

_____ \$15.00 Library
Library subscription only

_____ \$50.00 Contributing
Organizations and
Individuals

Directory Information: Zoo: _____

Work Area: _____ **Special Interests:** _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

***Articles printed do not necessarily reflect the
opinions of the Animal Keepers' Forum editorial
staff or the American Association of Zoo Keepers, Inc.***

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Animal Keepers' Forum

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August 1989



Dedicated to Professional Animal Care

ANIMAL KEEPERS' FORUM, 635 Gage Blvd., Topeka, KS 66606

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Marilyn Cole, Metro Toronto Zoo/Project Coordinator

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Pat Sammarco, Santa Fe Teaching Zoo

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Harmony Frazier-Taylor, Woodland Park Zoo

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Elandra Aum, Woodland Park Zoo

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Zoo/University List

Mike Illig, Washington Park Zoo

Nominations & Elections

Rachel Rogers, Miami Metrozoo

Director of Chapter and Regional Affairs Committee

Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

This month's cover features a Palm Cockatoo (Probosciger aterrimus) drawn by Diane Callaway, a reptile keeper at the Henry Doorly Zoo in Omaha, NE. The Palm Cockatoo is the largest member of the cockatoo family, reaching lengths of up to 80cm. Native to the Indo-Australian region, the Palm Cockatoo sports a feather crest which serves as a signaling device. Breeding season is from August to January with the clutch consisting usually of a single egg. Incubation period is 20-30 days with both parents sharing in incubation duties. The chick fledges at approximately 65-70 days after hatching. Thanks, Diane!

Scoops

and

Scuttlebutt

IMPORTANT--Please Note New Deadline Date for Syracuse Conference '89 Hotel Reservations--Don't Delay in Making Your Arrangements!

Due to an error in the material sent to AKF by the Syracuse Conference Committee, the date listed as the deadline for making hotel reservations for the '89 Conference has been listed as 18 September in the Conference Hotel Form (gold insert each month). We have been informed that this was an error and the actual date you need to make your hotel reservation by in order to be assured a room and the special conference rates is 1 September 1989. Therefore, do not delay in securing your room reservations. Reservations or prices will not be guaranteed after this date.

NEC Chair Announces Board Election Results

Rachel Rogers, Miami MetroZoo, who is the Chair of this year's Nominations and Election Committee has submitted the official results of the 1989 AAZK Board of Director's election. Elected by the voting AAZK Professional Members to the two Board positions open were: Brint Spencer, Minnesota Zoological Garden, Apple Valley, MN, and Janet McCoy, Washington Park Zoo, Portland, OR. Brint was re-elected to an independent term after being appointed to fill an unexpired term which occurred due to a resignation. This is Janet's first term as a Board member for AAZK. Brint and Janet will serve from 1 January 1990 through 31 December 1993.

AAZK congratulates these two newly elected Board members and thanks them for their willingness to serve the Association. We also wish to thank the four other candidates for their participation in this election. They are: Ed Hansen, Reid Park Zoo, Tucson, AZ; Rosemary Jalink, Baltimore Aquarium, Baltimore, MD; Holly Reid, Burnet Park Zoo, Syracuse, NY; and Willis J. Whittaker, Toledo Zoo, Toledo, OH.

Elephant Workshop Issues Call For Papers

The Tulsa Zoological Park will host the 10th Annual Elephant Workshop from 1-4 November 1989. The theme for the workshop is "The Future of Elephants, their care and management". Topics should focus on Animal Management: care, discipline, safety; People Management: public relations, emergency procedures, general policies; Facility Design, Conservation, Education, and Research.

Those wishing to present a paper or poster presentation should submit an abstract by 1 September 1989. For more information contact: Karen Dunn, Tulsa Zoological Park, 5701 E. 36th St., N., Tulsa, OK 74115 (918) 596-2400. For registration information contact Larry Nunley, Mammal Curator at (918) 596-2440.

Ngare Sergoi Support Group Seeks Serious Conservation Articles for Planned Newsletter

Andy Lodge, of the Ngare Sergoi Support Group, Inc., is seeking serious articles on conservation issues for publication in the group's planned newsletter. Entitled H.O.R.N. (Help Our Rhinos Now), the first issue is anticipated in November and will be published quarterly. While the newsletter will focus attention primarily on elephant and rhino issues, Andy stressed that they would like to see it become a forum for coverage of all conservation and environmental issues including such topics as rainforest deforestation, oil spills, toxic waste, acid rain, sea turtle decimation, whales, dolphins, etc. The newsletter will have wide distribution with 10,000 already on the mailing list. Articles should be of a serious nature and be 1,000 words or less.

Andy will present more information on the newsletter and membership in the Ngare Sergoi Support Group at the 1989 AAZK Conference in Syracuse. All funds generated will go to the Ngare Sergoi Rhino Sanctuary in Kenya which is operated by Anna Mertz. During the first half of 1989, the Group was able to send \$30,000 to the sanctuary, much of which was raised through the assistance of AAZK Chapters nationwide. Those interested in submitting articles should send them to: Ngare Sergoi Support Group, Inc., P.O. Box 29503, Columbus, OH 43229.



Keeper's Alert

Friends University of Wichita, Kansas and the Sedgwick County Zoo have cooperated in the development of B.S. and M.S. programs with emphasis in Zoo Science, Zoo Management and Zoo Education. The B.S. program requires a strong biology background, plus basic skills development in management and interpersonal relations. The M.S. program includes a broad base environmental studies curriculum with options to specialize in one of several areas of zoo studies. Both programs require a minimum of 360 clock hours of practical experience at the Sedgwick County or other zoos. For more information contact: Dr. George Potts, Coordinator, Zoo Studies Program, Friends University, Wichita, Kansas 67213 (316) 261-5818.

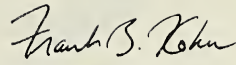
Information Please

I am interested in information regarding the maintenance of psittacines on any of the commercially available pelleted diets. Any transition info and reproduction data would be especially helpful. Please send to: Dave Mannes, 3880 W. New Haven Ave., West Melbourne, FL 32904.

Cookbooks Wanted: We're in the process of developing a cookbook to raise funds for expansion. If your zoo has a cookbook for sale would you please send me an order form -- and any suggestions you may have to make this project a success. Send to: Karen Wakeland, Animal Rehabilitation Center, Inc. (ARC), P.O. Box 629, Midlothian, TX 76065.



From the President.....



Frank B. Kohn
AAZK President

The results of this year's election for the Board of Directors have been received. Brint Spencer will retain his seat on the Board. He will be serving a second term and will continue enhancing AAZK for the benefit of its members. Susan Barnard's position will be filled by Janet McCoy from the Washington Park Zoo in Portland, OR. Jan has had a great deal of experience with the Board of Directors. She served as Chairman of the Nominations & Elections Committee from 1986 to 1988 during which time she helped the Board totally revise the election into a more uniform procedure. During the past year Jan has served as Chairman of the Awards Committee. Her participation and experience in AAZK activities at both the National and Chapter level will be a great contribution to the Board and benefit the entire membership.

We had approximately a one-quarter return of ballots sent out. The election results were close and I was pleased with the number of candidates who ran. I want to thank those who were not elected and encourage them to consider running in the election to be held in two years when there will be three seats available. It is essential that new ideas be continually channeled into the organization. New board members, as well as increased participation by members, will serve this purpose.

Chris Garland has resigned from the Chapter and Regional Affairs Committee. Chris was a principle force in overhauling this Committee and he will continue to serve as an informal advisor. I want to thank Chris for this time and dedication to AAZK. Bill Whittaker will take over the entire system. Bill's tireless efforts at restructuring the Regional and Chapter System are reaching many of you and your chapters. I urge you to contact Bill and discuss his ideas. He is committed to increasing membership involvement in the Chapter System and AAZK as a whole, and he is open to input from everyone.

Lisa Bauer Saban is resigning as co-chair of the International Affairs Committee-East Region. Anyone who is interested in becoming involved with the foreign keeper sponsorship program and contacting zoos around the world as an AAZK representative should contact me or Pam McDougall, IAC West Region Co-chair

The new by-laws have been reprinted and are available from Administrative Offices in Topeka. These by-laws have been submitted with our application for non-profit tax status with the IRS. Many of you have written me asking what action your Chapter may take regarding recent environmental disasters such as the oil spills in the Pacific Northwest and in New England. Please contact the Board before you take any official action on behalf of your Chapter. Until our legal status is finalized we may not be in a position to lobby for legislative change. I encourage you, however, to write your respective legislators as individuals who are involved in conservation causes.

I want to remind all members that dues will increase on 1 September 1989. Please review my message in the July *Animal Keepers' Forum* for details of these changes.

The 1989 National Conference in Syracuse is rapidly approaching. Please submit your registration forms and hotel reservations soon. As noted in this month's "Scoops", the deadline for assuring hotel reservations is 1 September, **not** 18 September as previously advertised. The preliminary schedule, which appears to have several overlapping workshops, should have an even finer selection of topics than last year's superb conference in Tucson. The agenda and schedule for the Board meetings in Syracuse will appear in the September issue of *AKF*. As usual the Board will meet in a closed session on Saturday, 30 September and will then open up the meeting to all members on Sunday, 1 October. Anyone who wishes to address the Board at that time or discuss any issue before or during the meeting should contact me or any Board member right away so that we may provide ample time for all those wishing to speak.



Coming Events

AZVT 9th Annual Conference

September 22-24, 1989

Calgary, Canada

Hosted by the Calgary Zoo, Botanical Gardens & Prehistoric Park. For more information please contact: Lori Rogers, A.H.T., Calgary Zoo Animal Health Centre, P.O. Box 3036, Station "B", Calgary, Alberta, Canada T2M 4R8 or call (403) 265-9310 local 376.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.

17th Annual Conference of the International Marine Animal Trainers Association

Oct. 29-Nov. 3, 1989

Amsterdam, Holland

The Association's first European Conference is hosted by Zeedierenpark Harderwijk. Conference will include paper sessions, poster session, Discussion groups, IMATA Trophy Competition, etc. For more information contact: Jeffrey E. Haun, VP/IMATA, NOSC - Code 511, P.O. Box 997, Kailua, HI 96734-0997.

10th Annual Elephant Workshop

November 1-4, 1989

Tulsa, OK

Hosted by the Tulsa Zoo. For further information contact: Larry Nunley, Tulsa Zoo, 5701 E. 36th St. N., Tulsa, OK 74155. Phone (918) 596-2400.

The Eighth Annual Dr. School Conference on Nutrition of Captive Animals

December 8-9, 1989

Chicago, IL

Co-sponsored by the Lincoln Park Zoological Society and the Chicago Park District, the conference will be held at Lincoln Park Zoological Gardens. Topics will include koala browse production and development of alternative feeds, body composition testing of gorillas, natural vs. synthetic Vitamin E as a supplement, and the impact of secondary plant compounds and toxins on browse use. For registration information, contact Lois Stanley, Lincoln Park Zoological Gardens, 2200 North Canon Drive, Chicago, IL 60614, (312) 294-4666.



Births & Hatchings



Corrections to July B&H Column: under the Los Angeles Zoo listing last month, it should be noted that while the Zoo did experience its first successful breeding and laying of an egg by a California condor pair, the egg was subsequently transferred to the San Diego Wild Animal Park for artificial incubation and was successfully hatched and is being puppet-reared at that facility. Also, San Diego has had a pair double-clutch in a single season as well.

Under the Bronx Zoo listing - the White-cheeked gibbons were inadvertently identified as *Hylobates c. concolor* when they are actually *Hylobates concolor leucogenys*. Also, while the animals do change color at one year of age, it is not to the adult pelage; females as well as males turn black at about one year but females change back again to their buff color at about 5-6 years of age. Additionally the July B&H listed the Lowland gorilla as endangered in nature when it is actually only considered threatened in the natural state. IUCN has never placed them on any of its endangered lists, but they are listed as endangered by both CITES and the U.S. Dept. of Interior. (Ed. Thanks to Marvin Jones, San Diego Zoo, for clarifying these points.)

Burnet Park Zoo (Syracuse, NY)...for the period between October 1988 and July 1989, the Burnet Park Zoo reports the following significant B&H:

In the Mammal Dept. there were several first births for the zoo. Our Contact Barn (Domestic Animal Area) reported the birth of 1.0 Dexter Cattle in October. The Irish Dexter is a minor breed of dairy cattle originally bred on the small island farms of Ireland. In addition, the same area had its first birth of Mediterranean Miniature Donkey with the arrival of a female on 15 May.

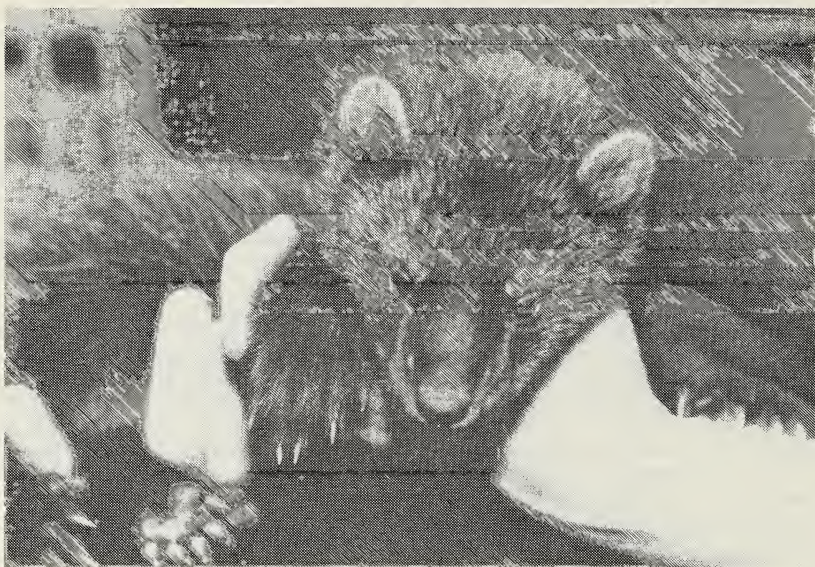
The Small Mammal Area (Adaptation and Social Animal Complex) reports the birth of 1.1 American river otter (*Lutra canadensis*) on 5 April. This is the first captive breeding success for otters at our zoo, and the babies are reported to be doing well. The same area also had its second birth of the rarely exhibited Blue duiker (*Cephalophus monticola*). A female was born on 12 May.

The Wild North (North American Area) reports its first birth of Fisher (*Martes pennanti*), born on 15 March. The 2.1 Fisher kits were born to a wild-caught female that was impregnated while in the wild and acquired in January. The birth represents a first for the zoo, and also a unique occurrence as captive births of this mustelid are very rare. It is hoped that these animals, which will be more accustomed to captivity than our wild-caught fishers, will enhance our efforts to breed this species in captivity.

The Bird and Reptile Dept. reports its first successful hatching of the Bald eagle (*Haliaeetus leucocephalus*). The single chick hatched out on 17 May. It was a particularly unusual birth since the chick was successfully raised by a single parent (the male). The female of our pair of eagles died of still unknown causes (necropsy results inconclusive) four days prior to hatching. The chick was removed from the nest in late June, and was fostered into a wild nest in Northern New Hampshire a few days later. Reports received in early July indicate that the adoption was successful and that the chick is progressing well in the care of its new parents.

The same area also reports successful reproduction with all three of its species of Poison Arrow Frogs (*Dendrobates*). These include specimens of *D. auratus*, *D. leucomelas*, and *D. tinctorius*. submitted by Tom LaBarge, Keeper, Burnet Park Zoo, Syracuse, NY.

Births & Hatchings, Continued



Fisher (*Martes pennanti*) kit born on 15 March 1989 at the Burnet Park Zoo, Syracuse, NY. 2.1 kits were born to a wild-caught female impregnated in the wild before arriving at Burnet Park last January.

Philadelphia Zoological Society...significant B&H for March through May 1989 include:

Mammals Dept: the Mammal Dept.'s success with marmosets continued this spring with the birth of 0.0.2 Pygmy marmosets (*Cebuella pygmaea*). These were the second pair of twins born to this pair since their arrival from Sweden. Also born to one of the zoo's four breeding pairs of Geoffroy's marmosets was a single infant. Marsupials did well with a Bennett wallaby (*Macropus rufogriseus frutica*) birth, and a Sugar glider (*Petaurus breviceps*). Closing out the mammals are 0.0.1 Ringtailed lemur (*Lemur catta*), 0.0.1 Short-tailed leaf-nosed bat (*Carollia perspicillata*), 0.0.1 Agouti (*Dasyprocta aguti*) and finally our overly successful colony of European harvest mice (*Micromys mintus*) 0.0.28 births.

Bird Dept.: the department did well this spring. Notable hatchings were 0.0.5 Emerald starlings (*Lamprotornis iris*), 0.0.2 Crested wood partridge (*Rolulus roul roul*), 0.0.1 Red-rumped woodpecker (*Picus e. erythropygius*), 0.0.1 Diademed tanager (*Stephanophorous diadematus*), 0.0.4 Red-billed magpie (*Urocissa erythrohyncha*), and 0.0.3 N.A. Ruddy duck (*Oxyura jamaicensis*), 0.0.8 Hooded merganser (*Mergus cucullatus*). The most important hatching was a Micronesian kingfisher (*Halcyon c. cinnamomina*). Also known as the Guam kingfisher, this bird has been driven to extinction on Guam by an introduced snake.

Reptile Dept: two important hatchings occurred; 0.0.1 Pancake tortoise (*Malacocherus tornieri*) and 0.0.1 Prehensile-tailed skink (*Corucia zebrata*). The Philadelphia Zoo's reptile department has been in the forefront in the captive management of this latter species. submitted by Robert Berghaier, Philadelphia AAZK Chapter Liaison.

Silver Springs Attraction...we report the following significant B&H for January through June 1989: 0.1 Reticulated giraffe (*Giraffa camelpardalis reticulata*) was born on 1 April for which we named her "April". Her 17-year-old mother "Wadsworth" was very calm during the four-hour delivery. Several keepers and management observed the birth and

Births & Hatchings, Continued

she didn't even mind us taking pictures. April represents the 18th giraffe born at our park. Our current herd totals 11. Another notable birth was our first set of triplet Aoudads (*Ammotragus lerira*). We observed the birth of two and thought that was it. We were surprised to come back and see the third one. We had a total of nine Aoudads born.

The rest of our births are as follows: 1.1 Grant's zebra (*Equus bruchelli*), 5 Reeves muntjac (*Muntiacus reevesi*), 0.1 Two-toed sloth (*Choloepus didactylus*) DNS. This was our first second generation baby, but being the mother's first, she would not care for it and dropped the infant. Also born were 0.1 Scimitar horned oryx (*Oryx dammah*), 1.0 Sable antelope (*Hippotragus niger*), 12 Blackbuck antelope (*Antilope cervicapra*), 1.0 Addax (*Addax nasomaculatus*), 4 Spider monkey (*Ateles geoffroyi*), 2.0 Llama (*Lama glama*), 23 Mouflon (*Ovis musimon*), 0.1 Scottish highland cow (*Bos taurus*). Hatchings included: 15 Rheas (*Rea americana*) both normal and white phases and 6 Blue-neck ostrich (*Struthio camelus*) which were hatched from our incubator. submitted by Joanne Zeliff, Head Keeper, Silver Springs Attraction, Silver Springs, FL.

Milwaukee County Zoo...would like to announce the following significant births and hatchings from January through May of 1989: we have been fortunate in having two Greater kudu (*Tragelaphus strepsiceros strepsiceros*) born in 1989. Both were sired by Valiant, a male who was born at the Memphis Zoo in 1979 and came to Milwaukee in 1980. Teri, a captive-born female, gave birth to a female, Hope, on 13 January 1989. Teri had been separated from the herd of three adult females and one immature male, and gave birth in an inside stall. Hope weighed 16.4 kg at birth and was first observed nursing about 36 hours postpartum. Our second Greater kudu birth occurred on 13 March 1989, when a male, Alex, was born to seven-year-old Saba. Alex, who was 21.8 kg at birth, was observed nursing several times within 24 hours after parturition. By 2 April, the adult females, young and the other two adult females in the herd were introduced into the exercise yard together. After a period of visual contact with Valiant, the group was successfully reunited with the male on 22 April. Saba and Teri have produced 13 young between them. These kudu births are significant because, although they are not a protected species under the Endangered Species Act at this time, a restriction has been placed on further imports from the wild.

On 6 March 1989, our experienced pair of Malayan tapirs (*Tapirus indicus*), Bonnie and Mongo, produced a female that was named Yala. This was the fifth baby for Bonnie. Two days before the birth, Bonnie was isolated from Mongo into an adjoining stall separated by fencing. Baby and mother were soon reunited with the good-natured male. Malayan tapirs inhabit the forests of Indochina and the Malay states. They are shy, nocturnal vegetarians that have been chased out of their ranges or hunted for food and sport. Thus they are endangered and classified on Appendix I of CITES.

On 20 April 1989, 1.1 Tayra (*Eira barbara*) was born. This signifies one of fewer than 20 captive births in North America and is a first for our zoo. The female was taken off display and separated from the male prior to the birth. After the babies were about six weeks old, the family was put back on display in a cage adjacent to the male. Eventually the male will be reunited with the family after a careful reintroduction procedure. This is the first offspring for both parents who are captive-born. Unfortunately, on 30 June, the female baby died due to unknown causes. She had always been small and weak and the cause of death may be elucidated after the necropsy is completed. The Tayra is a member of the mustelid family and is similar in appearance to a Fisher. Their range includes South Mexico extending south to Argentina. They are listed on CITES Appendix II out of Honduras only.

Four pairs of our Humboldt penguins (*Spheniscus humboldti*) have successfully hatched chicks this spring. This was the first time for three out of the four pairs. Six chicks were hatched but unfortunately two chicks from one pair were found dead, presumably neglected by their first-time parents. Since then, two more chicks were found dead, leaving two chicks surviving. For Humboldt penguins, first-time parents, even in the wild, are commonly unsuccessful in raising their offspring, and thus we hope for better success next year. The Humboldt penguins are found on the west coast of South America and on the associated islands. They were classified as endangered in 1981 after their numbers drastically declined. This reduction in the wild population was due to the overharvesting of the guano in which the birds build their nests and due to overhunting for meat, oil and eggs. submitted by Karin Neuman, volunteer, Milwaukee County Zoo, Milwaukee, WI.





Book Review

The Encyclopedia of Animal Evolution

R.J. Berry and A. Hallam, eds. 1987

Facts on File Inc., 460 Park Avenue South, NY, NY. 10016

144 pp., index, glossary. Price \$24.95

*Review by Michael J. Demlong
Exhibit Design Coordinator
Wildlife World Zoo
Litchfield Park, AZ*

As the title implies, this book is a compilation of information on various aspects and topics of one subject, namely animal evolution. The volume presents a concise survey of life in the past, evolutionary principles, and the mechanisms of evolution. *The Encyclopedia of Animal Evolution* is edited by two university professors and includes the contributions of twenty-one "distinguished authors". The volume represents one from a continual series published by Facts on File, Inc. and it includes approximately 100 photographs, 80 diagrams and artwork panels, 144 pages, and an overall dimension of 8 1/2 by 11 1/2.

The book is sectioned into six chapters, each of which is further divided into smaller topics. Preceding the main text in each chapter is an outline description of the topics to follow. The first chapter, *The Prehistoric World*, is a brief review of paleontology and of life from Precambrian to the present day Quaternary period. Overall the editors have devoted considerable space to paleontology, the fossil record, and the prehistoric world. Of special interest in the chapter are outlined summaries explaining the ongoing changes occurring in the earth's plate tectonics, climate, and botanical taxa as time progressed. Reconstruction drawings of dinosaurs, early mammals, and the often neglected invertebrates supplement the text and, show the overall approach of the volume.

The next chapter, *The Background to Evolution*, centers around the Charles Darwin era and briefly mentions other contributing evolutionists before, during and after him. The brief, insignificant reference to other evolutionists and alternative evolutionary ideas suggest a biased viewpoint on the part of the editors. Although Darwin can be deservedly described as the father of evolutionary biology, the volume overemphasizes his role. More space should have been dedicated to the actual history of evolutionary thought that lead to Darwin's theory and to the contribution of other people as well. Also in this chapter is a small section on animal systematics.

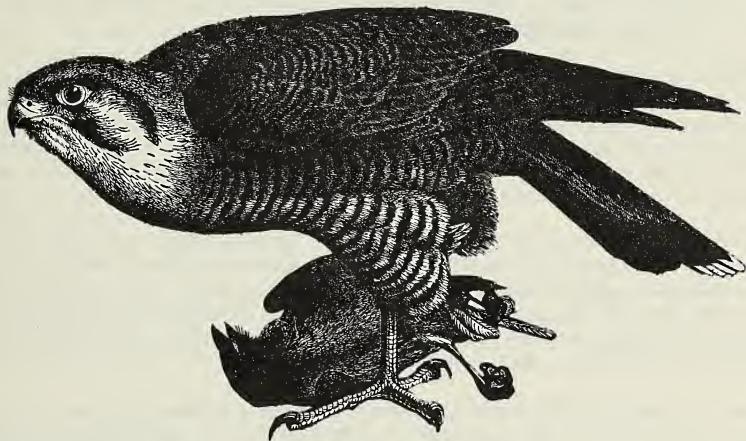
The Course of Evolution, third chapter in this volume, presents the evidence for evolution like: the progression of life, extinction, missing links, and living fossils. The editors have reproduced the evidence that evolution has occurred and suggest how the fossil record helps us to understand when and how it occurs.

Chapter four examines the observation that living things share a common relationship among themselves. Titled *The Consequences of Evolution*, the main thrust here is common ancestry, defining life, homology, embryology, and adaptation. This chapter leads the reader to the next, *Mechanisms of Evolution*, possibly the most comprehensive and technical part of the book. Here the mechanics of genetics are reviewed such as mitosis, transcription, the genetic code, mutation, population genetics, the species question, and isolation.

Book Review. *Continued*

Man and Evolution, the final chapter, covers the evolution of *Homo sapiens* and the accompanying social controversies. This chapter halfheartedly attempts to present the arguments about evolution from scientific and creationism views.

At first glance this volume may appear like a "coffee table" type picture book, with every page containing either color photos or large full-page drawings of reasonable quality. This large amount of visual stimulation makes the volume easy to read, providing appealing mental breaks from the transcript. Yet the volume remains an encyclopedia and as such only briefly touches on many aspects of the single subject at hand. Overall the book offers a worthwhile survey of animal evolution, however abbreviated, and may best serve as a reference. Do not expect any new information or theories, but rather a review of accepted evolutionary principles.



Publications Available

International Publications Service (IPS), a division of Taylor & Francis, Inc., Philadelphia, has announced that it will distribute the International Zoo Yearbook 1987, published by the Zoological Society of London.

The new International Zoo Yearbook has as its special topic conservation science. The 24 scientific papers detail the unique role of zoos in this vital field, considering population management, reproductive management, laboratory research, and cooperation with governments world-wide. As always, the book includes a section on new developments in the zoo world. This year, it offers 19 essays on such topics as the rapidly expanding field of zoo horticulture, breeding of sharks, pythons and birds, and the Small Animal Facility at the National Zoological Park. A 160-page reference section lists species bred in captivity since 1985, the latest census of rare animal in captivity, and a current record of authorized studbooks and registers.

The newest volume in this series is an indispensable sourcebook for all zoologists, ornithologists, zookeepers, veterinarians, ethologists, and everyone concerned with the care, conservation, biology and behavior of animals. It is an essential acquisition for all zoo libraries, plus those of animal laboratories and conservation centers. University libraries, particularly those with veterinary and biology divisions, will also require this respected and valuable resource.

The 27th volume of International Zoo Yearbook is currently available for \$65.00 hardcover (501 pages). To order, call toll-free 1-800-821-8312. If you would like more information, contact Deborah Lovell, IPS Marketing Representative at (215) 785-5800.



What's In An Animal Name?

By
Martha Cornog
AAZK Associate Member
Philadelphia, PA

I have long been fascinated with the varieties and idiosyncrasies of names and naming. In the U.S., at least, we sometimes give proper names to such diverse entities as buildings, vehicles of all kinds, tools, weapons, computers, plants, and sexual body parts (Cornog, 1986, 1988). In fact, we seem to be able to name just about anything with which we come into contact regularly; dancer Ann Miller called one pair of her tap shoes Frick and Frack; another pair Moe and Joe (Speers, 1982).

So of course we name animals. The public is familiar with names for pets but less so with names for zoo animals, depending on enclosure labeling practices at the individual zoo. Yet public knowledge or no, most zoo animals seem to be named, often by keepers and sometimes by elaborate public (relations) rituals such as contests to "name the baby gorilla - giraffe - rhino -" etc. And sometimes animal donors give the name together with the animal.

What kinds of names are chosen for zoo animals? There are different classes of names, reflecting different practices and, perhaps, raising different problems. The large majority are human-type names.¹ This habit apparently goes at least as far back as the beginning of zoos in this country. When the Philadelphia Zoo opened in 1874, its collection included an elephant named Jennie, chimpanzees named Adam and Eve, and a baboon named Henry Ward Beecher (Sedgwick, 1988).

Most of these zoo animals seem to be named after keepers, keepers' relatives, and famous people, real or fictional. It appears not unusual to name an entire group of animals around a theme: the Philadelphia Zoo's Siberian tigers are George, Martha, Dolly, and Abigail. And with stunning appropriateness, it was Martha who became George's "first lady" last year, giving birth to Lardar and Bira.

The tiger twins' names represent another fairly common zoo type: names suggesting the animal's place of origin. Lardar and Bira are provinces in Siberia. Similarly, African animals -- lions, giraffes, gorillas, and rhinoceroses (white and black) -- often acquire Swahili names, whereas giant pandas acquire Chinese names. (Note, however, Koko, below, and the panda named Pandora.)

Some animal names are more or less descriptive. Blue Eyes, Squint, Bug Eyes. And still others reflect the offbeat sense of humor of a profession that holds roach contests: Coldilocks (polar bear); Bluegenes (blue subspecies of American black bear); Julius Squeezer (boa constrictor) and others collected by Stoddard (1988).

We can only conjecture, of course, how animals themselves regard these human-given labels. Only some species respond to names. One is the gorilla, and indeed the famous Koko, who learned American Sign Language, is reported to have named a pet kitten All Ball (Dougherty, 1985). (Koko is short for Hanabi-Ko, Japanese for "fireworks child". Koko was born on 4 July in the San Francisco Zoo, and, according to Patterson and Linden, 1981, her name was chosen in a contest.) Certainly most animals seem to respond to each other as individuals. Captive breeding programs are continually reported as having to contend with animals' individual tastes in mates. Even laboratory rats, bred for decades to copulate with catholic promiscuity, have been observed to show mate preferences (Krieger, Orr, and Perper, 1976; Perper, 1978).

I suggest that zoo animals are named partly for ease in identifying them and partly since -- to their keepers -- they are easy to identify because of their different appearances and behavior. The casual zoo visitor sees a lively scramble of meerkats; their keeper sees

What's In An Animal Name?, *Continued*

Simon, Bowie, Rusty, Boomerang, and Misty. So for the people who care for the animals, the names promote and testify to their relationship with them as individuals as well as a group. In this, proper names for animals serve the same function as, say, proper names for vehicles. In naming a car Blue Bomber, its owner distinguishes it, as an individual of its species, from all other cars.

Some researchers have conjectured that naming animals, particularly with human names, constitutes a dangerous anthropomorphic trend and promotes unrealistic expectations of our relationships with them (e.g., Slovenko, 1983). Certainly, anthropomorphism is a danger to both animals and people, and zoo lore is filled with grisly tales of maltreated animals, too-friendly patrons, and overly-trusting keepers. Yet naming per se does not mean that we necessarily regard an animal as "human" -- rather as distinct from others of its kind and as standing in a relationship with the namers.

In this regard, posting names of animals for the edification of zoo visitors may actually promote serious observation rather than simply encouraging "Bambi-ism". A sign giving the names and identifying the characteristics of the four elephants in an exhibit could result in a lively, impromptu contest among school children to figure out "which one is Kutenga". In the process, they learn that elephant are not terrifying faceless beasts or mobile grey lumps but individual creatures, interesting to observe and -- ultimately -- to conserve. The massive public support (albeit perhaps an overreaction) of the recent whale rescue in Alaska could not have been entirely independent of the fact that the three whales soon acquired not one, but two sets of names: Bonnet, Crossbeak, and Bone; and Putu, Siku, and Kanik (Inuit names) (Linden, 1988).

And while some animal people, striving for utmost objectivity, rigorously give numbers instead of names to the creatures they care for or observe, many field zoologists routinely seem to name some or all of their subjects of study. (See, e.g., Schaller, 1973; the van Lawick-Goodalls, 1970). Interestingly, in the field, fewer "human" and more descriptive or evocative names seem to be chosen: Bandit, Swift, Bones, Dusty.

In short, naming animals, in zoos and otherwise, both creates and testifies to our relationships with them -- and our responsibilities for them. And is not relating people to animals one purpose of zoos? The challenge remains for zoos and other organizations to extend the link of perceived affinity and responsibility from person-individual animal to person-animals as species and person-wildlife in general. Only then, I suggest, can we humans all learn to recognize both the individuality of animal life and its cumulated value to us and our world.

Footnote

1. Examples of animal names are drawn from a number of books about zoos and wildlife, literature from the Philadelphia Zoo, and the "Births and Hatching" column of Animal Keepers' Forum.

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Chapter News

Audubon Chapter of AAZK

At our June meeting, the following officers were elected:

President.....Terri Carr
Vice Pres.....Sean McConnell
Secretary/Chapter Liaison...
Rhonda Votino
Program Chairman.....Walt Burgoyne

The office of Program Chairman was newly added to the roster of positions. The position was created to aid in the educational aspects of the meetings. This person is responsible for scheduling guest speakers, slide shows, etc. for each meeting.

Since our Chapter will be hosting the National AAZK Conference in 1990, committees have already been hard at work preparing.

---Rhonda Votino, Chapter Liaison

Greater San Francisco Bay Area Chapter

The GSFBA Chapter has been sponsoring its 1989 Zoo Medicine Symposium Series at their facilities. Programs in the series have included Dr. Chris Murphy, DVM, on "Veterinary Care of Exotic Animal Vision" and Dr. Murray Fowler, DVM, on "Medical Management Without Restraint". Chapter members are admitted free and non-members are charged \$5.00 for each symposium session.

---GSFBA Chapter flyer

Assiniboine Park Zookeepers Association

It is with deep regret that we must announce the death, after a courageous bout with cancer, of Siegfried (Fred) Finken. Fred started with the city of Winnipeg in 1966 and with the zoo as a night watchman in 1980. He became a temporary zookeeper in 1982 and a permanent keeper in 1985.

Fred was a kind and gentle man with a great love for the animals he cared for and was a pleasure to work with. We will miss him.

--Valerie Norquam, Chapter Liaison

Omaha AAZK Chapter

The recently chartered Omaha AAZK Chapter is off and running and have begun producing their own in-house newsletter entitled Keeper Chronicles II. Members of the Newsletter Committee are Lisa Cuevas, Paul Dulany, Jack Heatherington and Neal Thomas.

Congratulations to the Omaha Chapter for such a successful start to their organization!

We would strongly encourage all AAZK Chapters which produce a newsletter, to put AAZK Administrative Offices on your mailing list. We would love to see your newsletters and see what you are all doing. *Ed.*





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Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



Various habitat preservation bills introduced

Everglades expansion — H.R. 1727, S. 724

Would add 107,600 acres to the Everglades National Park, making the park's boundaries more closely match the natural ecosystem and restoring natural water flow to the park that many believe is critical to saving the Everglades ecosystem, one of the ten most endangered parks in the country.

Idaho Wilderness Act — H.R. 2213

This bill, now in its fourth Congress without passage, would protect a portion of the remaining 9.3 million acres of roadless national forest land in Idaho.

Tongass National Forest reform — H.R. 987

Would repeal Section 705 of the Alaska Lands Act, a provision the U.S. Forest Service (USFS) interprets as a mandate to offer the timber industry 450 million board feet of Tongass timber annually. H.R. 987 would also terminate two 50-year contracts the Forest Service holds with two pulp companies and would designate 23 key areas of old-growth habitat as protected wilderness.

California Desert Protection Act — H.R. 780, S.11

Would set aside 7.5 million acres of the 25-million-acre desert region as national parks or designated wilderness areas.

Nevada Wilderness Bills — H.R. 2352; H.R. 2320, S. 974

H.R. 2352 would protect 1.4 million acres of Nevada's national forests as wilderness areas. H.R. 2320/S. 974 would protect 733,400 acres, and yet another bill would protect 132,000 acres.

Arizona Desert Wilderness Bill — S. 1080

Would designate nearly 900,000 acres of Arizona's Sonoran Desert as wilderness. Environmentalists are opposing S. 1080 on the grounds that it doesn't include some critical areas, and would threaten the future preservation of another 2.6 million acres by removing their interim protection as wilderness study areas (WSAs).

Big Thicket Expansion — H.R. 919

Would add 14,000 acres to the biologically diverse Big Thicket National Preserve in East Texas.

>From *Sierra Club News* (via Econet computer network)

NMFS to prepare impact statement on swim-with-the-dolphin programs

In the 10 May 1989 Federal Register the National Marine Fisheries Service (NMFS) announced its intent to prepare an environmental impact statement on the use of marine mammals in swim-with-the-dolphin programs. These programs allow a member of the public, including paying customers, to enter the water with a dolphin for recreational swimming, snorkeling, or scuba diving activities. There are currently four locations offering such programs with a fifth under consideration. Authorization for the programs, under an experimental and provisional permit system, expires on 31 December 1989 and the NMFS intends to look into the long-term environmental consequences of the programs.

Opponents question the educational value of swim-with-the-dolphin programs, the ethics of removing dolphins from the wild for this purpose, the potential for injuries to humans, and the possible health risks to the dolphins. Proponents believe that the benefits to dolphin conservation, primarily the increased human understanding of marine mammals fostered by the intimate contact, outweighs any slight potential risks.

In a related development that may affect swim-with-the-dolphin programs, the Marine Mammal Commission, on 12 April 1989, announced that it was no longer issuing permits for the capture of Atlantic bottlenose dolphins (*Tursiops truncatus*) in the U.S. Gulf of Mexico pending further study. (See July 1989 AKF.) Dolphins used in swim-with-the-dolphin programs are taken from *T. truncatus* populations in the Gulf.

> *From 'AAZPA Legislation Committee*

NMFS issues interim policy on marine mammal permits

The NMFS recently issued an interim policy regarding the evaluation of educational or conservation programs of organizations applying for a permit to take marine mammals for public display. The interim policy interprets and incorporates amendments to the Marine Mammal Protection Act (MMPA) that were signed into law last November. The amendments require NMFS to issue permits only to those applicants that offer programs for education or conservation that are acceptable to the Secretary of the Interior. In order to determine what is "acceptable" the NMFS intends to undertake a comprehensive review of its permit program pursuant to the MMPA.

The interim regulations took effect on the date they were published in the Federal Register (22 May 1989) and will be in effect until the review is complete and permanent regulations are developed.

> *From AAZPA Legislation Committee*



Kenya Diary

1988

Part 4

By
Andy Lodge
Keeper, Columbus Zoo
Columbus, OH



On the Brink of Extinction: A Ngare Sergoi Journal

April 10 - News this morning: they found the tour bus about 9:00 p.m. last night. The elderly people seemed OK, but weary. They had been drinking water out of the river, but had had nothing to eat. They were taken out of the park this morning.

Went to see the famous White Rhinos of Meru this morning. The rhinos were brought here from South Africa. Originally there were six. Although they have a 24-hour guard, the shifta (armed poachers, usually Somali) have already killed one. There are five left. The story goes...one night the shifta set a fire on the airstrip. All the guards went to look at it. While they were gone, the shifta shot and took the horn of one of the white rhino.

We talked for awhile with the guards who were watching them. As we were getting ready to leave, one of the guards tried to sell me an elephant hair bracelet. I had a very hard time keeping my temper in check as we drove off.

Tomorrow we are going to look at the new black rhino sanctuary that has just been completed here at Meru.

April 11 - We went over to park headquarters early this morning to see the warden and get permission to see the new sanctuary. He said it was OK and dispatched an armed ranger to accompany us. We drove quite a ways over some very rough and muddy roads until we reached the sanctuary. The sanctuary has only been open a week. In fact, the rangers who guard it were still building their living quarters.

It's the newest of the sanctuaries. It has a five-wire, solar-powered fence. The fence is about five feet high. At this time they have one black rhino inside, everyone seemed vague on future plans for it. I'll just have to wait for further information. It is a government-run sanctuary. I hope it is a success.

The Tana River runs through a very remote end of Meru Park. It is said to be the most beautiful river in Kenya. We talked to the rangers and they told us that people are advised not to go there because of shifta activity in that area of the park. We asked if it was forbidden. They said no, but it was considered quite risky.

We headed out for the river about 9:30 a.m. We drove about 40km and finally came upon one of the most awesome and beautiful sights I've ever seen. There was the Tana, a wild, cascading river in one of the wildest settings imaginable. I am not one to get overly impressed or excited about many things. The Tana River took my breath away. Words can't describe the incredible beauty of this river. We couldn't stay too long because we didn't want to press our luck, not the safest place to be and all.

Kenya Diary - 1988, *Continued*

I had an eerie feeling here. It was the total absence of wildlife in the area which is usually a sure sign that there are poachers around and that they have been operating in the area.

On the way back we saw a lesser kudu. It's the first one I've seen in the wild. All and all, it's been a good day.

April 12 - Left early this morning for Ngare Sergoi. Arrived back about 11:00 a.m. Anna said everything was calm, no problems. Samia is being cut down to two formula feedings a day and is being locked out of her night pen in the evening. So far she seems to be adjusting alright. Anna wants her completely weaned by the end of the month.

April 13 - Pretty routine today. Did the rhino check, got some great photos; Rogani and her new calf. Found out that Godot is going to be moved to the West Savo Sanctuary. How soon we don't know.

Anna is cutting Samia's formula to just the evening feeding. No problems so far.

April 14 - Things are quiet today. Everybody's gone. Dan went to Meru to get some legal forms for Karl's transfer to Switzerland and Anna went to Nanyuki to see Karl.

I took down the tent Dan and I were sleeping in when we first came here and took it back to Lewa Downs. Our stay is about over. As always, I hate to see it ending.

April 15 - I went to Nanyuki today to pick up Karl and take him for an outing. I took him shopping and to a little restaurant for lunch. He seemed in pretty good spirits. After I took him back to the hospital, I had to find a lady keeper from England who was coming to Nanyuki from Nairobi. She has been writing to Anna and is coming up to Lewa Downs for a week. I finally found her and brought her back to the reserve. Nice girl by the name of Ann Stewart. We talked at length about zoos in England and the U.S. She's a very dedicated woman and very conservation conscious.

I'm helping Anna crate train Godot. We feed him lucerne three times a day in the crate. He does fine, not crate shy at all. I see no problems with him.

April 16 - Still working with Godot. Anna feeds him at the front of the crate while I get on top and bang around. He doesn't pay much attention to me even when I'm right over him. As soon as transport can be arranged, he can go out.

April 17 - Routine day except I went riding tonight and the horse went one way and I went the other - on top of a pile of rocks. I'm very sore tonight. I think I may have broken my toe. I never was much of a horseman. I think I'll stick to riding elephants. I understand them.

April 18 - My stay this time is about over. Godot is going to go to the new reserve in Meru. No one is happy about that, but it's out of our control. I hope he makes it up there. He's a fine animal.

April 19 - Had lunch with Ian, Jane, and Peter Jenkins and his wife. Peter is at the forefront of the rhino project in Kenya and a fine man. We talked about the future for the rhinos in Kenya. I wish them well in this important and difficult endeavor.

Said my good-byes to the Craigs and the people on the reserve. I leave tomorrow.

April 20 - Going home today. I leave with mixed feelings. Anna will be alone now. She's strong. I hope she will be alright. She has a lot of problems right now. I wish I could help her, but it's out of my hands. She will do what has to be done, I know that. This trip has been good and bad. Much different than my other visits. I want to go home, yet I don't want to leave this place of which I've become so much a part. I must though accept the reality of my responsibilities at the other end and leave.

Kenya Diary - 1988, Continued

(Note: Andy is available to give talks and a slide presentation on the Ngare Sergoi Rhino Project. If you are interested in having Andy speak to your Chapter or group you may contact him at (614) 645-3413 [w] or (614) 431-0486 [h]. If you would like to make a contribution to help in the Sanctuary's work, you may send it to: Ngare Sergoi Support Group, Inc., P.O. Box 29503, Columbus, OH 43229. Tax-deductible contributions should be made payable to "Ngare Sergoi Support Group, Inc.")



Cheetah Observation Program at the Phoenix Zoo

By
Stuart Allen Wells
Keeper II, Phoenix Zoo
Phoenix, AZ

The Phoenix Zoo is presently conducting a Cheetah observation program (*Acinonyx jubatus*). The program is for the purpose of collecting information about specific behavioral frequency increases during suggested cheetah breeding periods. The observation covers several behaviors in both male and female cheetahs, however, the area of interest is centered on female behavioral changes which could indicate a pre-estrus condition.

The need for such an observation program arises from the lack of consistency that we and many other zoos have experienced when attempting to breed this endangered animal in captivity.

What we would like to discover from this observation is whether there is indeed a predictable pattern of behavioral frequency increases during the suggested optimum breeding periods of captive cheetahs. To do that this program was designed to continue for one year in which each season could be observed and behavior frequencies recorded during those periods.

There are three possible results of this observation: (1) That we will find that there is a statistically significant increase in pre-estrus behaviors in females, i.e., urine marking, rolling, activity level, vocalizing, during the suggested optimum breeding seasons; (2) That there is a statistically significant increase in pre-estrus behaviors during periods other than the suggested optimum breeding seasons; or (3) That there is no significant increase in pre-estrus behavior in female cheetahs.

If either of the first two results occur we would use that information to better coordinate introductions for the purpose of breeding with the optimum period of female reception. If the third result occurs we will at least know that we need a more in-depth analysis of breeding strategies in captive cheetahs. In any case our time will not be wasted. The cheetah is an endangered species in the wild and it has had limited success breeding in captivity. If these cats are faced with the prospect of existing only in captivity then it falls to us to understand as much as we can about them in order to insure their survival.

A complete packet has been composed detailing the cheetah observation program at the Phoenix Zoo. For more information contact the Curator of Mammals at the Phoenix Zoo, Box 52191, Phoenix, AZ 85072.



Conference '89.....

**October 1-5, 1989
Syracuse, NY**



Conference Attendees,

I would just like to give you a quick update on how things are going with conference planning here in Syracuse. First, please note that the date on earlier forms for hotel reservations cut-off has been corrected due to a transcribing error. The last day for guaranteeing conference rates at the motel is 1 September 1989 and not 18 September, 1989 as previously published. The hotel has assured us that they will try to accommodate anyone who tries to register for a hotel room after this date, but they cannot guarantee the less expensive rate. So if you think you're coming to Syracuse make a hotel reservation now! You can cancel up until 72 hours before you arrive. We would hate to see you pay a higher rate.

Bill Whittaker, the Director of Regional Coordinators will be chairing a special meeting on Chapter and Regional Affairs on Monday night, 2 October at 6:30 p.m. Lots of important things are going on with this committee and it is strongly suggested that all Regional and Chapter Liaison Representatives attend this meeting. Contact Bill if you are interested in what's going on with this system.

Post-Conference Trip

We have planned a post-conference trip on Friday, 6 October and Saturday, 7 October to the Buffalo Zoo, the Aquarium of Niagara Falls and a tour of the Niagara Falls area. The trip includes hotel Friday night, breakfast Saturday morning, admission to the Zoo and Aquarium (as well as a special show at the Aquarium) and travel to and from Syracuse. All this for only \$89.00 per person. The catch is spaces are extremely limited so if you want to go, include a note with your registration for the conference or call Alan Baker at (315) 478-8511. We need to know by 1 September 1989, so don't wait.

Zoolympics

The annual Zoolympics will be held at the Ross Park Zoo this year. The busses will depart from the Quality Inn North on Tuesday morning and travel to Binghamton. We will be treated to a tour of the Zoo and lunch. After the Zoolympics are enjoyed the busses will return to Syracuse where we will wrap up the day with dinner on your own.

See You In Syracuse!

1989 AAZK Conference Registration Form

October 1-5, 1989
Syracuse, New York



PLEASE TYPE OR PRINT
(one name only per form please)

Name _____

Address _____

City _____ State/Province _____

Zip Code _____ Telephone # (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

Is this your first AAZK Conference? ____ Yes ____ No

I will be submitting a paper ____ Yes ____ No
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: ____ Yes ____ No

I am bringing an auction item: ____ Yes ____ No

(Describe briefly) _____

Vegetarian: ____ Yes ____ No (Specify type) _____

I am interested in a conference T-shirt? ____ Yes ____ No (S M L XL)

ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

*Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

Return this form with fee to: Burnet Park Zoo AAZK Chapter,
Conference '89, 500 Burnet Park Drive, Syracuse, NY 13204.

Hotel Reservation Request

1989 AAZK National Conference

October 1-5, 1989

Syracuse, NY



Name _____

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Arrival Date _____ Check-out Date _____

Room Guaranteed By: _____ Credit Card _____ Check

Master Card Visa American Express (please circle)

Credit Card #: _____

Expiration Date: _____

***Make check payable to QUALITY INN NORTH. First night's deposit or credit card guarantee required. A 72-hour cancellation is required for a deposit refund.**

I will be sharing a room with: _____

Accommodations:

Single \$50.00 _____

Triple \$65.00 _____

Double \$60.00 _____

Quad \$65.00 _____

Check-in after 3:00 p.m. Check-out time is 12:00 noon.
Telephone for Quality Inn North is (315) 451-1212.
Deadline for reservations is 1 September 1989.

RETURN THIS FORM TO:

AAZK Conference
c/o Quality Inn North
1308 Buckley Road
North Syracuse, NY 13212-9988

ZOO DAYS Presents:

Murphy's Law of Zookeeping

- ② A crowd will always gather in an area 5 minutes prior to your having to move an animal through that same area:



- ④ IF A HOOFED MAMMAL IS HAVING A PROBLEM BIRTHING, IT WILL GIVE BIRTH IN THE MOST INACCESSIBLE AREA OF THE EXHIBIT, ON THE KEEPER'S DAY OFF, IN THE RAIN:



Murphy's Law: If anything can go wrong, it will. The Law applies to Zoo Keeping in a variety of ways.

For Example:

- ① The amount of time invested in preparing a primate exhibit is inversely proportional to the time it will take for the primates to trash it:



- ③ IF A ZOO KEEPER WORKS EXTRA HARD ALL DAY, HIS OR HER SUPERVISOR WILL NOT BE AROUND - UNTIL 10 SECONDS AFTER THAT SAME KEEPER SITS DOWN FOR A REST:



- ⑤ IF A VISITOR IS CAUGHT FEEDING THE ANIMALS, IT WILL MOST LIKELY BE NEAR A "DO NOT FEED ANIMALS" SIGN...



A tip of the hat and a hearty Thank You to Tom LaBarge for the creative Zoo Days series that is entirely his work.



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Annual Conference of American Association of Zookeepers

October 1-5, 1989

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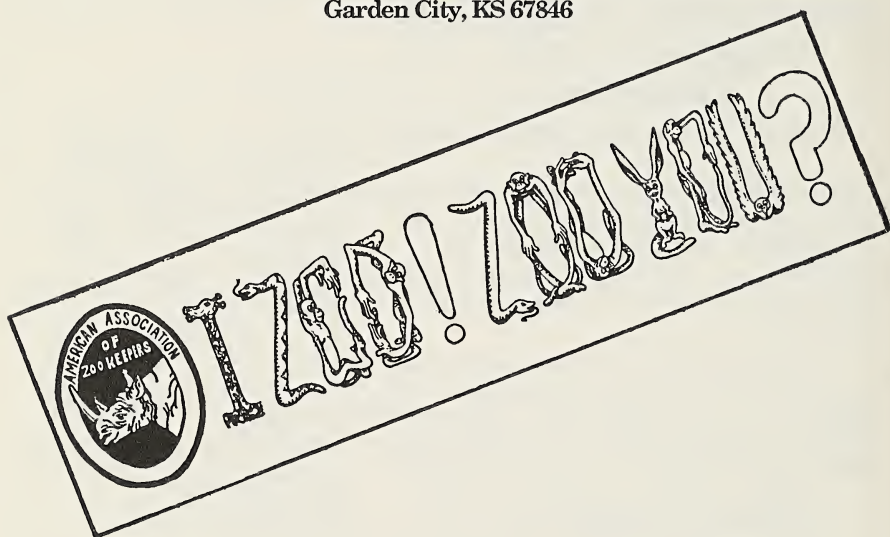
CONTINENTAL

AAZK Bumper Stickers

The High Plains AAZK Chapter now has bumper stickers available to purchase. The bumper sticker is designed to appeal to any zoo supporter. Buy one to put on your own car to promote zoos. Or your AAZK Chapter can purchase a large quantity to sell to your own zoo's visitors.

The sticker is 3" x 11", black and white vinyl. The cost of the sticker is \$2.50, which includes postage. Quantities of 100 or more will be sold at a reduced rate of \$2.00 each. Please send order form below along with check or money order made payable to "High Plains AAZK Chapter" to:

Lee Richardson Zoo
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Breeding the Black and White Casqued Hornbill (*Bycanistes subcylindricus*) at the Ouwehand Zoo in the Netherlands

By
Gerald H. Meijer, Keeper
Ouwehand Zoo, the Netherlands

The Black and white casqued hornbill (*Bycanistes subcylindricus*) is one of the big African hornbills. It is a rainforest dweller with a more or less regular home range. The range of the species is along the Ivory Coast in West Africa through Cameroon, the Republic of Central Africa, Uganda, the South of Sudan to West Kenya and Northwest Tanzania. They are only locally found.

A large species (30 inches in height), this species displays sexual dimorphism. The horn of the male is much larger than that of the female and the male displays a distinctive white patch on his horn, close to the forehead. I was unable to find much about this species in the literature except that they live secretive lives in the heavy foliage of the rainforest, have nesting habits similar to other hornbill species, and produce a clutch of one egg.

In Ouwehand Zoo we have, since 1976, a breeding pair of black and white casqued hornbills. The birds came from the Wassenaar Zoo, also a Dutch zoo. Their origin is unknown, but most likely they are wild-caught animals.



Figure 1. Range Map for Black and White Casqued Hornbill (*Bycanistes subcylindricus*)

Breeding the Black & White Casqued Hornbill at the Ouwehand Zoo. *Cont'd*

After their arrival they were housed in our free flight aviary (50m x 25m x 15 m high). They shared the aviary with a wide range of other species, e.g., Sacred ibis, Scarlet ibis, Cattle egret, Touraco, Hill mynah, several species of ducks and teals, along with Wreathred and Great hornbill. This mix of species gets along pretty well in this outside aviary. There is not much fighting and they all get a fair opportunity to eat. This is during our "summer". During the autumn, winter and early spring, when the birds are inside, we have more difficulties. All of the hornbill species have to be kept separate due to fighting. They are kept in holding areas measuring 5m x 5m x 3m. Our black and white casqued hornbills are very aggressive and will not allow any other bird, hornbill or not, in their aviary.

In the outside aviary we offered the birds large Birchwood nesting logs. These measured 31.5 inches high with a 13.8-inch inside diameter and a entrance hole of 5.9 inches. The hornbills never showed any interest in these logs, except to use as a resting place or as a lookout perch. In the winter of 1979-80 it was decided to offer them a nesting box in the holding area. Another reason for this decision was that since 1978 the birds had been observed feeding each other on a fairly regular basis.

1980

The nesting box is made of watertight 15mm thick plywood. The measurements are 50cm x 50cm x 70cm with an entrance hole measuring 15cm. This box is put up at the end of January and the birds are immediately attracted to it. We offer the birds a mix of elephant dung and clay. We got this "recipe" from zoos which breed or are trying to breed hornbills. This mixture is for plastering and closing the nest entrance. We soon started to offer it separately because we were raising a lot of fungus on this mixture. The next year we stopped offering the elephant dung altogether. The birds used just clay and leftovers of their food in sealing their nestbox.

Until August the birds were very busy with claying, plastering and feeding each other. Then we decided it was unlikely that the birds would still start egg laying and incubating that season, so they were set free into the outdoor aviary.

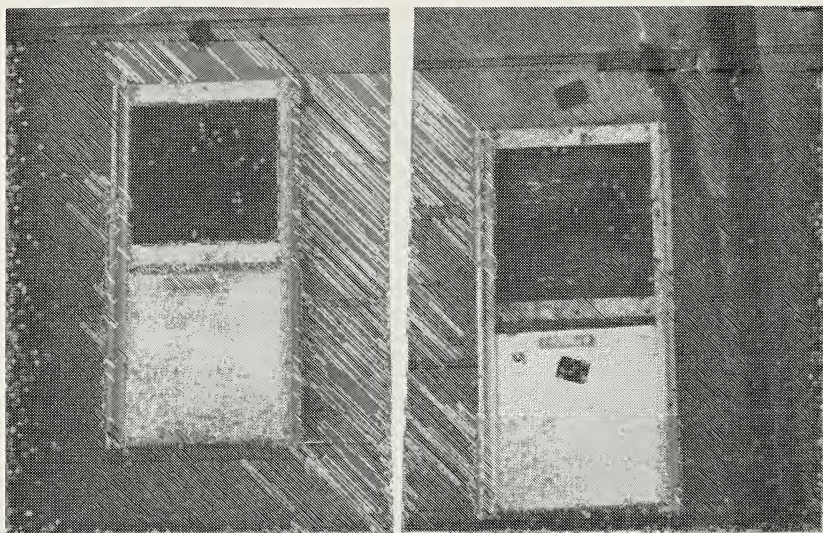


Figure 2. Hornbill Nesting box entrance before (l) and after (r) occupation.

Breeding the Black & White Casqued Hornbill at the Ouwehand Zoo.
Cont'd

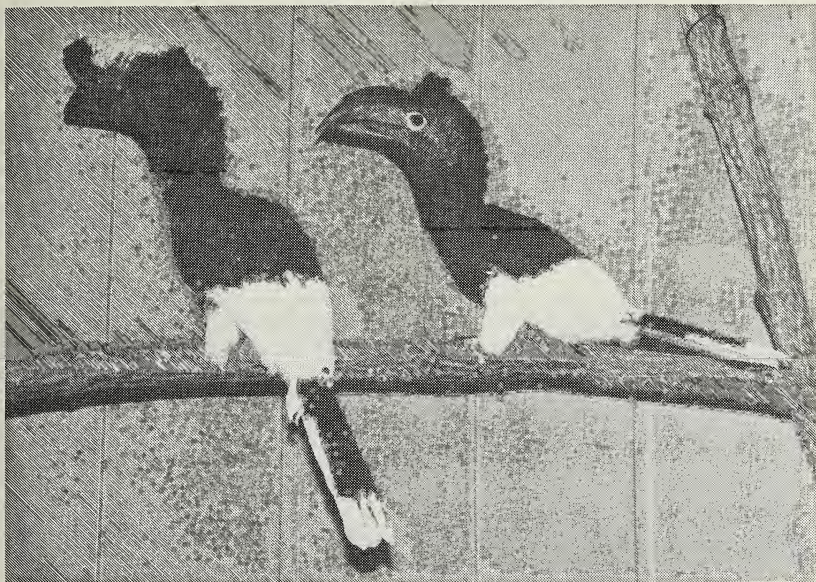


Figure 3. Adult male and female Black and White Casqued Hornbills.

1981

In February we offered our birds clay again and the same day they started plastering. United plastering and feeding went on until 12 April. On that day the female went into the nestbox and remained there. The male continued to plaster the entrance and feed the female. By 16 April the entrance hole was closed except for a feeding slot. The feeding slot is only large enough to permit the male's bill to fit in, nothing more. We made it this far, the female is locked in! In May we got a spell of hot weather. Inside the building, which has a glass pane roof, the temperatures rose to between 45-50°C. This was much too hot for an incubating bird in an enclosed nestbox. So we made a sprinkler and began sprinkling during the hottest part of the day. We were now able to lower the temperature around the nestbox enough to protect the female and the eggs from overheating.

Then on 13 May, the sprinkler wasn't turned off. It continued to run until the next morning and it filled the nesting box with water. We had to open the box to save the female who almost drowned. She was very weak from heat loss and it took her a week to overcome the worst weakness, and much more time before she was in a reasonable condition again. There were also two fertile eggs at the bottom of the box. We put them in an incubator, but as we expected, they did not grow any further.

During the winter we made small sliding doors in the outside wall so that we would be able to put the nesting boxes up on the outside of the building. This way we could avoid the risk of overheating. We now had to wait until the spring of 1984 before our female would again enter the nest box after the accident. Every July/August the birds were given free access into the outside aviary.

1985

During the spring a lot of plastering went on again, and although it took a long time, by 18 May the female was sealed into the nestbox once again. This began for us a long and uncertain time of waiting. The male was feeding the female well which was a relief.

Breeding the Black & White Casqued Hornbill at the Ouwehand Zoo. *Cont'd*

In July we thought we heard a chick or was it the female? No, the sounds were clearly (but very softly) the begging sounds of the chick. We now had to wait until the chick was large enough to show itself. On 26 September part of the plastering was broken away and the female emerged. It took another two days before our youngest member of the hornbill family showed itself. Our first black and white casqued hornbill! Was it being fed by the parents - we didn't actually see it as the birds dislike onlookers. They have always been nervous and shy so we left them in peace as much as possible. The young looked healthy and active so we assumed everything was going well. At the end of the year, the youngster was sexed as a female by doing a *chromotographie* of a blood sample. She was moved to the Blijdorp Zoo in Rotterdam where a male black and white casqued hornbill awaited a mate.

1986

This season our birds seem to have more experience. The female was already plastered in by 26 April. The male began the busy time of feeding his mate and we began another period of waiting. On 1 September the mother and her daughter left the nesting box together. They both looked well looked after and well fed. On 11 September we had to move the birds to another building while we painted the wall and floors of the holding area. This had to be done before October when the other birds had to come in for the winter.

This move proved too much, and on 13 September the chick was found dead on the floor of their new cage. Postmortum gave us no leads as to why she died. We think it was the move, less or no food intake or cessation of feeding by the parents. This was a major setback and a hard lesson. In future, we must not only keep them together, but make no changes until we are absolutely sure the chick is self-supporting.

1987

A very quiet year. On 12 April the female is boxed in and with no problems at all, the female and her third daughter emerged from the nesting box on 18 August. This bird stayed with her parents all winter. This went very well and we never saw any fighting and the chick was never chased away by the parents.

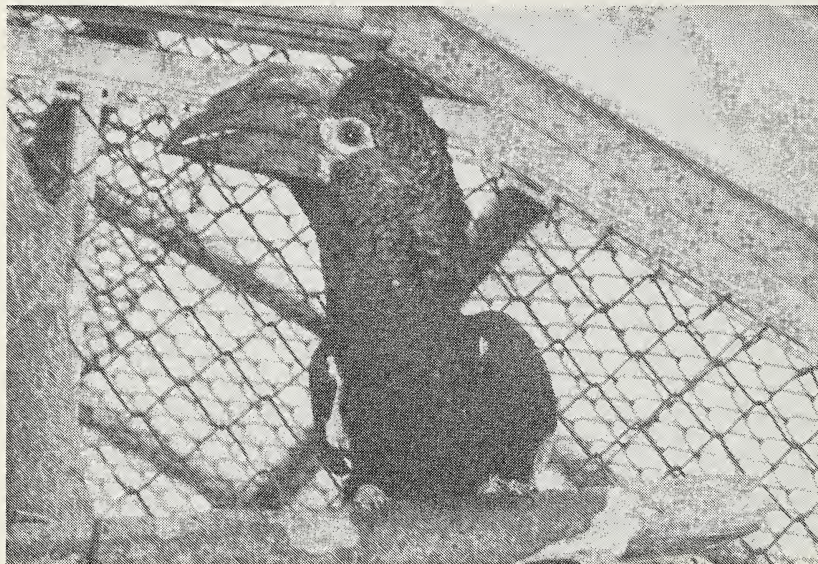


Figure 4. 0.1 Black and White Casqued Hornbill hatched in 1987.

Breeding the Black & White Casqued Hornbill at the Ouwehand Zoo.

Cont'd

1988

In the middle of March we decided to remove the young female so that her parents could nest undisturbed. We had not observed any nesting activities until now and, indeed, she prevented her parents from nesting. She was hardly moved out before the parents began plastering. On 4 April the female was sealed in and the male began his long and lonely duty of feeding and watching again. It took until 11 August before the mother and a male offspring left the nesting box. They both looked marvelous, a tribute to the male's attentive care. We left them together as we did with the previous offspring and they got along fine. As this is being written, the beginning of February 1989, they are still together. But the youngster will soon leave and his parents will have their place to themselves once again.

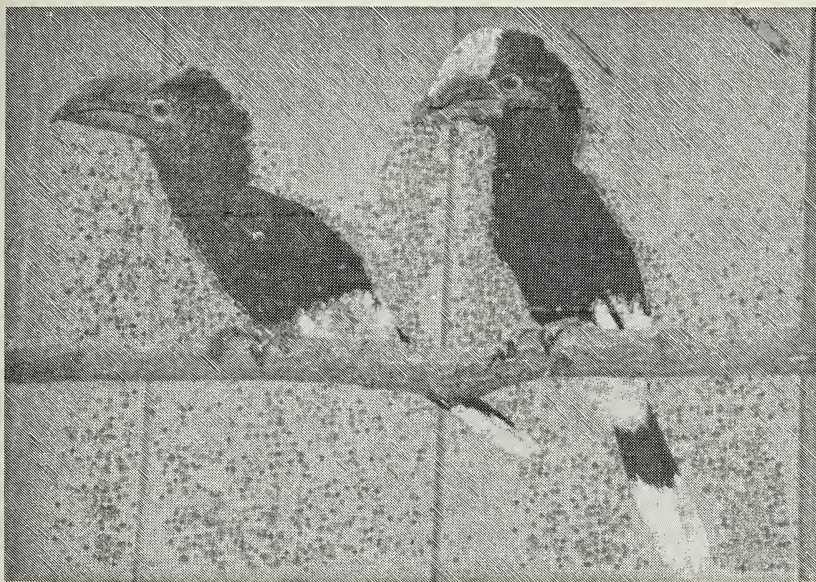


Figure 5. Adult female (l) and 1.0 offspring (r) hatched in 1988.

Food

Our diet is, in fact, very moderate. The Hornbills don't get much more than our daily softbill diet. This consists of: several small cut fruits such as apple, banana, orange, raisin, tomato mixed with seasonally available fruit. We mix these fruits with breadcrumbs (to extract some of the moisture). It is also mixed with a commercial softbilled diet and a dog food diet. We add a multivitamin and the whole is mixed by hand. This is offered twice a day with some ground meat and day-old chicks, mealworms and maggots.

Nesting Period

In 1985 the female left the box after a stay of 131 days; the young after 133 days.

In 1986 it took 128 days before both animals left the box together.

In 1987 it took 128 days as well.

In 1988 it took one day longer, 129 days.

Breeding the Black & White Casqued Hornbill at the Ouweland Zoo.

Cont'd

We still cannot tell much about the actual incubation period. We cannot look into the box and all the chicks are very quiet, hardly any begging sounds are ever heard.

Eggs

After the sprinkler accident in 1981, we found two eggs in the nesting box. The measurements of those eggs was 57mm x 49mm and 46mm x 34mm. In the four cases where the chicks fledged, we never found eggs or remains of them. More questions here as well. A change in the nesting box which would allow us to look inside without disturbing the birds is the next thing to do. We hope thereby to learn more about our hornbills' nesting and chick-rearing behavior.

Sexing

We determined the sex of the first, third and fourth birds born by chromosomecount (done by the staff at the Blijdorp Zoo). The birds of 1985 and 1987 were female, the '88 bird is a male. You can see the difference between a young male and female clearly if you have seen one of each sex. Initially we thought the horns of our young females would grow during the next years because they were bigger than the horn of the female. When we saw our 1988 male we knew there was sexual dimorphism in this species from the time of fledging.

I think at the end we can speak about successfully breeding the black and white casqued hornbill. But inspite of the answers we found about hornbills, we stumbled over more questions to be answered. Of great importance seems to be to have a compatible pair of birds, a quiet place, good food and a nesting box that suites the birds along with nesting material.

References

A Field Guide to the Birds of West Africa, W. Serle, G.J. Morel, W. Hartwig.

The Birds of East and Central Africa, J.G. Williams

Encyclopedia "The Life of Animals" Part 9. Prof. Dr. Bernhard Grzimek.

Encyclopedia of the Bird Fancier, Rutgers.

Products Mentioned in the Text

Multivitamin concentrate by A.U.V. Cuyk.

Softbill Mixture, V. Norden Voorthuizen.

Dog Food Mixture, V. Norden Voorthuizen.



Rare Cats Imported by the International Society for Endangered Cats (ISEC)

By Gail E. Foreman, Ph. D.
Director of Research
International Society for Endangered Cats
Columbus, OH



Felis silvestris gordonii, the Arabian desert wildcat, is one of the ancestors of the domestic cat (*Felis catus*) and comes from the desert regions of Oman, Arabia and the United Arab Emirates. In size, they resemble the domestic cat and weigh 7-12 lbs; however, the coat is a soft silver color covered with small dark gray spots, reddish brown ears, a red stripe down the spine, black-banded legs and tail, and a pale cream belly. The entire body has a soft, misty look, as though the tips of the fur were frosted with silver. In the wild, they lead a solitary life and pairs come together only for mating. This lifestyle is typical of species living in harsh environments where food is scarce and hunting involves traveling long distances to fill the daily requirements.

The ancestor of the domestic cat is in a precarious situation today. Habitat destruction and persecution have reduced the numbers of these cats to a critical few. The shy, solitary nature of the species prevents them from coexisting with human encroachment. However, the major threat to the species is their own descendants, the domestic cat. The close relationship of the wildcat to the domestic cat allows interbreeding, producing hybrids which are no longer pure wildcats. Since wildcats produce only one litter per year of 3-4 young and domestic cats breed year-round, the domestic cats are rapidly overwhelming the wildcat gene pool. Humans are spreading out into areas traditionally occupied by this species, and with them, come the domestic cats. This invasion of domestic cat genes has already caused the extinction of several wildcat subspecies, and the fate of the entire species is now in serious jeopardy.

An additional threat has been the low resistance of this species to domestic cat diseases. No degree of natural immunity has evolved in the wildcat to the infectious diseases carried by domestic cats. In areas where domestic cats have been introduced, the wildcat has been decimated by feline distemper and feline infectious peritonitis.

The Arabian desert wildcat is now thought to be extinct in the wild. No pure wildcats have been seen in over three years. Fortunately, a few pure animals still exist in captivity in Abu Dhabi, the United Arab Emirates. A breeding program was initiated in 1986, beginning with a captive male and a wild-caught female. From this original pair, 23 offspring have been produced, 16 of which have survived. This is the only known pure colony of Arabian desert wildcats in the world, and may be the last of this subspecies. Recently, the owners of this colony became concerned that, if disaster struck, the subspecies would be completely extinct in one blow. Therefore, an effort was made to establish breeding colonies in other areas of the world as insurance against extinction. Two pairs have already been sent to Germany. The International Society for Endangered Cats is honored to have been chosen as the U.S. representative to receive these cats from Abu Dhabi. Through the efforts of ISEC, the San Diego Zoo will also receive a pair of cats. These pairs will be the only Arabian cats in the Western Hemisphere. The ISEC cats will be sent to Mrs. Pat Quillen's facility in southern California. Mrs. Quillen is Director of Animal Management and International Programs for ISEC and has operated a successful private breeding facility (Society of Scientific Care, Inc.) for 20 years. The California climate will be more conducive to the health of the wildcats initially than our own unpredictable Ohio weather. Eventually, as a major captive breeding facility is built in Ohio, a colony of these cats will be brought to this region.

ISEC Imports Rare Cats, Continued

One of the most exciting developments to emerge from this importation has been the opportunity to participate in a genetic study of this subspecies and four other wildcat subspecies currently in captivity in this country. This study will encompass the entire range of the species, from Scotland to India. The five subspecies represented are: *F.s. grampia* (Scottish wildcat, San Diego Zoo); *F.s. taitae* (Tanzanian wildcat, San Antonio Zoo); *F.s. tristrami* (Israeli wildcat, San Diego Zoo); *F.s. gordonii* (Arabian wildcat, ISEC and San Diego Zoo); and *F.s. ornata* (Indian wildcat, Cincinnati Zoo).

Dr. Steven J. O'Brien, a senior geneticist at the National Cancer Institute in Washington, DC, will be carrying out the analysis of blood and skin biopsies to determine genetic distances among the five subspecies. Some authors have stated that the Arabian and Israeli wildcats may actually be the same subspecies and only recently became separated. The results from this study will allow us to make a decision on whether our Arabian wildcats can be outcrossed with the Israeli subspecies to introduce more genetic variability into the gene pool. This could be crucial to the survival of this species, as breeding pairs now have inbreeding coefficients of 0.25. If this approach is successful in determining the actual amount of difference among subspecies in this cat, it may be extended in the future to other species. The profusion of subspecies in small cats and the amount of hybridizing among these subspecies has been a major problem in small cat conservation.

This important conservation effort is being made possible through the efforts of many people including: Dr. Claus Muller and Mrs. Marycke Jongbloed of Abu Dhabi; Carol Carson, U.S. Fish and Wildlife, Atlanta; Gail Hagens, Atlanta Custom Brokers; the San Diego Zoo, California; Corporate Travel Consultants, Columbus; Dr. Steven J. O'Brien, Washington, DC; Dr. Lynn Kramer, Columbus Zoo, Ohio; the San Antonio Zoo, Texas; Dr. Betsy Dresser, Cincinnati Zoo; and the Cincinnati Zoo, Ohio. Special thanks go to Lufthansa Airlines and American Airlines both of which provided expedient, free transport for these cats.

AAZK Announces New Professional Members



Carolyn Fletcher, Franklin Prk Zoo (MA)
Peter Psillas, Bronx Zoo (NY)
Ernest Karpeles, Zool. Preservation Institute (NY)
Janet Ellis, Pet Farm Park (VA)
John Beasley, Sea World of Florida (FL)
Arleen Gutierrez, Sea World of Florida
Bruce Nolan, Lowry Prk Zoo (FL)
Kathy Holliman, Knoxville Zoo (TN)
Robert Goth, Gatlinburg Municipal Black Bear
Habitat (TN)
Renee Van Den Heuvel, John Ball Prk. Zoo (MI)
Debbie Mruk-Schnell, Henry Doorly Zoo (NE)
Lisa Schleicher, Grand Isle Heritage Zoo (NE)
Richard Burns, Noah's Land Wildlife Prk. (TX)
Bill Lloyd, Hogle Zoo (UT)
Petree, Alameda Prk. Zoo (NM)
Jackie Levine, San Diego Wild Animal Prk. (CA)
Robin G. Parker, Los Angeles Zoo (CA)
Jim Rorman, Washington Prk. Zoo (OR)
Sue Mitchell Cyr, African Lion Safari, Cambridge, Ont. Canada

Douglas Piekarz, Bronx Zoo (NY)
Ming Lee Prospero, Central Prk Zoo (NY)
Tina Coleman, Seneca Prk Zoo (NY)
Kimberly Barclift, VA Zool. Prk. (VA)
Michael Prazniak, Sea World of Florida
Alex Waier III, Sea World of Florida
Mary Ann Simek, Knoxville Zoo (TN)
Christopher Paxton, Knoxville Zoo (TN)
Leslie Gaines, Detroit Zoo (MI)
Jill Frey, Racine Zool. Gdns. (WI)
Victoria Henrie, Lincoln Prk. Zoo (IL)
Sean MacConnell, Audubon Prk. Zoo (LA)
Liz Dominguez, Sea World of Texas
Bruce Eneboe, Reid Prk. Zoo (AZ)
Cheryl Rose-Marie Weisz, Los Angeles Zoo (CA)
Philip Brown, Santa Barbara Zoo (CA)
Will S. Houck, Zoocultural Found. (CA)
Wayne Ray, Alaska Zoo (AK)

New Contributing Members

Ngare Sergoi Support Group, Inc., Columbus, OH
Great Plains Zoo, Sioux Falls, SD
Kathy DeFalco, Escondido, CA

Renewing Contributing Members

Ronald M. Weber, Los Alamitos, CA



Penguin Sexing by Blood Feather Analysis

By
Neil S. Anderson, Senior Keeper
Indianapolis Zoo, Indianapolis, IN

First of all I would like to thank Joanne Jungclaus for her financial support of this project. Also, many thanks to Lynn Woodworth, Lucy Waite, Mark Ryan, Dr. Roberta Wallace, and her staff for their help and continuing efforts which made this project possible. Although I had this idea for a few years, it was only made possible by those special individuals named. Thanks!

We undertook this project in order to establish baseline data on immature penguins as well as a non-invasive alternative to surgical sexing. Since surgical sexing involved anesthesia, and a considerable amount of restraint, we did not want to subject the collection to an unacceptable risk. Besides surgical sexing is fraught with difficulties and judgment calls which could lead to an unacceptable level of error in the realm of polar birds.

It was based on these considerations that we decided to go the route of blood feather analysis. Since our penguins, 0.0.10 Rock hopper (*Eudyptes crestatus*), 0.0.5 Gentoo (*Pygoscelis papua*), were going into a molt, the timing could not have been better.

A cytogenetics laboratory offered genetic sexing of birds by chromosome analysis. By careful staining characteristics, a cytogeneticist can reveal the sex of the bird. Males have ZZ sex chromosome constitution and females ZW. The genetic method of sex determination is 100% reliable, since all cells must contain sex determining chromosomes within the living pulp of the blood feathers. The cytogenetic lab sent us the shipping kit and instructions for adequate preparation of the blood feathers.

To obtain the feather samples, we pulled regenerating tail feathers with enough living pulp for culture. This turned out to be tail feathers of about 2" in growth outside of the follicle to 1 1/2" internal growth for our Rockhoppers. We also used seven tail feathers per bird per sample. Following the careful preparation instructions the feathers were sent off.

Alas! Our first results have started to come in and instead of 0.0.10 Rockhoppers, we have 4.1.5 and are anxiously awaiting additional results as the molting process and blood feather analysis continues.

In conclusion, for penguins and other polar birds, this sexing technique is non-invasive and 100% accurate. The baseline data of just knowing the sex of immature penguins will offer invaluable information in behavioral studies, collection management, and the propagation of a truly remarkable bird, the penguin.

For more detailed data on the procedures of genetic sexing of penguins, please call or write to:

Neil S. Anderson/General Curator
Wildlife Prairie Park
RR# 2
Peoria, IL 61615
(309) 676-7787



SPN - Newsletter on Spheniscid Penguins

Now Available to Interested Keepers

SPN, a newsletter for those working with spheniscid penguins, began publication in Fall 1988. The penguin species included are: *Spheniscus demersus* (Blackfooted or Jackass), *S. humboldti* (Peruvian or Humboldt), *S. magellanicus* (Magellanic), and *S. mendiculus* (Galapagos). The newsletter publishes material concerning all aspects of spheniscids: husbandry, field studies, studbooks, captive research, abstracts and citations of recent publications, etc. The current issue contains articles on the Humboldt SSP, banding, sexing, husbandry, and general considerations for management. The publication is free to institutions anywhere in the world holding spheniscids, and to individuals (researchers, etc.) working with these species. Costs of printing and postage are being met by the Washington Park Zoo and by a generous grant from the Portland Chapter of AAZK.

A list of the US and Canadian zoos on the current mailing list appears below. If your zoo is not on the list, and has spheniscids or serious plans to acquire them, please write to be placed on the mailing list.

If your institution is listed, but you have not seen the newsletter's September 1988 or May 1989 issues, please check with your curator, librarian, etc., and attempt to locate the newsletter. Because of printing and postage costs, we would prefer not to send out multiple copies, and ask that institutions circulate their copy or xerox it for distribution. However, if for some reason this is absolutely not feasible at your institution, please let us know and an additional copy can be sent under your name.

Also, we solicit contributions in the form of articles, short notes, or queries, from our readers; please consider whether there is some aspect of your penguin exhibit/husbandry/research/problem-solving which you would like to share with others.

Metro Toronto Zoo
Societe Zoologique de Granby
Aquarium of Niagara Falls
Baltimore Zoo
Brookfield Zoo
Chicago Zoological Park
Cleveland Metroparks Zoo
Denver Zoological Gardens
Henry Doorly Zoo
Hogle Zoological Garden
John Ball Zoo
Knoxville Zoological Park
Marine Life Aquarium
Memphis Zoo & Aquarium
New England Aquarium
Potter Park Zoo
Racine Zoological Garden
Riverbanks Zoological Park
San Antonio Zoo
Sea Life Park
Sea World of Ohio
Shedd Aquarium
St. Paul's Como Zoo
Tulsa Zoo
Woodland Park Zoo

Montreal Aquarium
Stanley Park Zoo
Aquarium of the Americas
Blank Park Zoo in Des Moines
California Academy of Sciences
Cincinnati Zoo
Columbus Zoological Gardens
Ft. Wayne Children's Zoo
Henry Villas Zoo
Honolulu Zoo
King's Island
Los Angeles Zoo
Marineland of Florida
Milwaukee County Zoological Gardens
Philadelphia Zoological Garden
Point Defiance Zoo & Aquarium
Reid Park Zoo
Roger Williams Park Zoo
San Francisco Zoological Gardens
Sea World, Inc.
Sea World of Texas
St. Louis Zoological Park
Steinhart Aquarium
Washington Park Zoo

For further information contact:

Cynthia Cheney, Bird Keeper
Editor, SPN
Washington Park Zoo
4001 SW Canyon Road
Portland, OR 97221



AAZK Keeper Training Video Tape Project

The goal of the AAZK Keeper Training Video Tape Project is to produce quality video tape training programs suitable to supplement existing in-house training of entry level keepers. These tapes are not intended to be a complete training program in themselves. All proceeds generated from the sale of training tapes will be used to finance production of future training tapes. Two tapes are currently available.

Zoo Keeper Safety: An Attitude Adjustment - This 18-minute program does not attempt to address the numerous variable specifics of this subject. It presents a safety approach to the job of zoo keeping, and promotes constant awareness and personal responsibility for safety.

A Zoo Keeper's Introduction to Feeds and Feeding - A half-hour introduction to the complex subject of feeds and feeding of zoo animals. Topics covered include what, when, and where to feed.

AAZK Keeper Training Video Tape Purchase Agreement Responsibilities and Restrictions of the Buyer

- 1) The tape may not be duplicated or made available to any person or institution for the purpose of duplication.
- 2) The tape may not be utilized for any commercial purpose.
- 3) Should the buyer decide the tape will not be useful to their training program, the undamaged tape may be returned within 14 days of receipt for a partial refund - \$10 for BETA and VHS, \$18 for 3/4-inch. For orders shipped outside USA please add \$5.00 for postage and insurance.

I, the undersigned, accept the responsibility for the restrictions listed above.

Name: _____ (type or print)

Signature: _____ Date: _____

Organization/Institution: _____

Shipping Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____

Tape Title: _____

Format:	BETA	VHS	3/4 INCH
	\$25	\$25	\$35

Make checks payable to: "AAZK Keeper Training Video Tape Project".

Mail To: Jean Raglan-McMahan Woodland Park Zoological Gardens,
5500 Phinney Avenue North, Seattle, WA 98103.

CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Chapter and Regional Affairs Committee - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 [h].

REGIONAL COORDINATORS

Elandra Aum, Woodland Park Zoo, 5500 Phinney Ave. North, Seattle, WA 98103 (206) 625-2244
for the States of WA, OR (North Pacific Coast) [w]

Todd Cecil, San Francisco Zoo, Sloat Blvd. @ the Pacific Ocean, San Francisco, CA 94132
for the State of CA [South Pacific Coast]

VACANCY for the States of ID, MT, WY (North Mountain)

John Turner, Denver Zoo, 23rd St. & Steele, City Park, Denver, CO 80205
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Ed Hansen, Reid Park Zoo, 1100 S. Randolph Way, Tucson, AZ 85716
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VACANCY for the States of ND, SD, MN, NE, IA (North Plains)

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Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, MetroParks Zoos, Franklin Park Zoo, Pierpoint Rd., Boston, MA 02121 AND
Mark Hofling, Bronx Zoo, 185th St. & Southern Blvd., Bronx, NY 10460 (212) 220-7115 (w)
(212) 543-2753 [h]
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(804) 480-2606 [h]
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for the State of Florida

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for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Province of Manitoba, Canada(204) 489-3893 [h]

Dean Treichel, Valley Zoo, Box 3259, Edmonton, Alberta, Canada T5J 2R7
for the Provinces of Alberta and British Columbia, Canada(403) 483-5525 [w]

AAZK Accessories and

Where to Order Them



AAZK Stickers & Auto Decals: the official AAZK logo in sticker form is available from the AAZK Appalachian Chapter. Suitable for any smooth, hard surface. There are two sizes available - 2" x 3" stickers are \$1.50 and 1" x 1 1/2" are \$.75 each. The auto decals measure 5" x 3" and are \$2.50 each. Please send your order along with payment to: AAZK Sticker/Decals, Mill Mountain Zoo, P.O. Box 13484, Roanoke, VA 24034. Please make checks payable to: AAZK Appalachian Chapter.

AAZK License Plates: the official AAZK logo with the American Association of Zoo Keepers on the license plate is available from the Detroit AAZK Chapter. The cost is \$2.50. Make checks payable to and send to Detroit AAZK Chapter, P.O. Box 39, Royal Oak, MI 48205.

AAZK Coffee Mugs: these beige porcelain mugs display the AAZK logo design in dark brown. The cost is \$5.50. Make checks payable to and send to: Milwaukee AAZK Chapter, 10001 West Bluemound Road, Milwaukee, WI 53226.

AAZK T-Shirts and Sweatshirts: the price for T-shirts is \$8.50, which includes postage. The T-shirts are available in tan, blue and brown in sizes S, M, L, and XL. The material is 50/50 polyester/cotton. The AAZK logo is located on the left front pocket area of the shirt. The sweatshirts are 50/50 poly/cotton in grey or maroon with the AAZK logo in black. They are available in sizes M, L and XL. The price per sweatshirt is \$15.00 plus \$3.00 for shipping. Please send your order along with payment to: AAZK T-Shirt/Sweatshirt, c/o Marie Schmude, AAZK Little Rock Chapter, #1 Jonesboro Drive, Little Rock, AR 72205. Please make checks payable to AAZK Little Rock Chapter.

Available from AAZK Administrative Offices are the following items:

Pins and Charms: enameled three-quarter inch pins and charms with the official AAZK logo are done in the same colors as the AAZK patch. The charms are suitable for necklaces. Price per pin or charm is \$3.50.

Patches: AAZK patches featuring the rhino logo are available for \$3.00 each.

AAZK Membership Directory: available for \$4.00 for members; \$7.00 for nonmembers.

Zookeeping As A Career Brochures: \$10.00 per hundred plus postage. Send requests to Administrative Office and you will be billed for brochures and postage. (For a single copy, send a self-addressed stamped legal-sized envelope.)



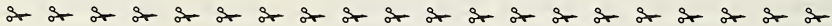
AAZK Diet Notebook Mammals, Volume 1

ORDER FORM

The AAZK Diet Notebook, Mammals - - Volume 1 contains approximately 325 diets representing 213 species and subspecies from fourteen participating institutions. The diets are arranged by taxonomic order using ISIS numbers in a durable and attractive three-ring binder. Each Diet Response Form included in Volume 1 contains the following information: common name, scientific name, ISIS number, the contributing individual, their institution and its address, how long the diet has been used, whether the animals have bred while on the diet, the diet ingredients, instructions for preparation, notes and remarks, special considerations and nutritional analysis (if available).

The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Cost of the Diet Notebook is as follows: 1) AAZK Members \$40.00; 2) Non-members \$55.00; 3) Institutions \$70.00. These prices represent prepaid order prices and include postage for the U.S. and Canada. Those placing orders from overseas should contact AAZK Administrative Offices, 635 Gage Blvd., Topeka, KS 66606 for additional postage charges. Please allow 4-6 weeks for delivery.



AAZK DIET NOTEBOOK ORDER FORM

I wish to order _____ copy (ies) of the AAZK Diet Notebook.

(check one)

AAZK Member _____ Non-Member _____ Institution _____

Total amount enclosed: \$ _____

Name: _____

Address: _____

City: _____ State/Province: _____

Zip/Postal Code: _____ Telephone: _____

ALL ORDERS MUST BE PREPAID

Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKF, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted or may be sent by FAX - our FAX number is 913-272-2539.

ELEPHANT KEEPER...responsible for daily care of elephants and camels, exhibit maintenance, and operating rides. Requires high school diploma and minimum 2 years experience. Must be able to work with the public. Salary \$12,250 to \$14,850 per year depending upon experience. Contact David Anderson, General Curator, Audubon Park and Zoological Gardens, P.O. Box 4327, New Orleans, LA 70178.

KEEPER...one year experience required or graduation from college in animal management/training program. Work with a variety of animals. Reptile experience helpful. Persons with animal training background will also be given priority. We are seeking a career-minded individual to assist with our goal of 1991 AAZPA accreditation. Salary commensurate with experience. Send resume or call John Haley, Associate Director, Catocin Mountain Zoo, 13019 Catocin Furnace Rd., Thurmont, MD 21788 (301) 271-3456.

ASSISTANT SUPERVISOR OF CHILDRENS ZOO...at Metro Parks Zoo-Boston. Will assist supervisor in exhibit development for upcoming accreditation, staff management, education, care and maintenance of animal collection. Duties include animal care and supervisory responsibility. Individual should have experience & knowledge in the following: 1. methods & techniques of animal care; 2. characteristics, habits & natural history of mammals, birds and reptiles; 3. animal transport methods; 4. sanitation practices; and 5. materials and equipment used in animal care and zoo maintenance. Salary \$18,900 to \$23,700 depending on experience. Send resume to: Alison Haskell, Children's Supervisor, Metro Parks Zoo-Boston, Franklin Park, Pierpont Road, Boston, MA 02121.

ELEPHANT KEEPER...at The Zoological Society of Philadelphia. Position requires 2-5 years of demonstrated experience in the handling and training of African and Asian elephants at a zoo or other recognized institution. Also responsible for the care and breeding of Indian rhinoceros and Malayan tapir. High School diploma or equivalent required. Prefer college degree in biology or a related field. Approximate salary \$21,000 and liberal benefits. Send professional resume, career goals and 3 letters of recommendation from professional associates to the Personnel Department, Philadelphia Zoo, 34th & Girard, Philadelphia, PA 19104.

HEAD KEEPER-PLAINS BIOME...working keeper position which demands supervisory and leadership ability. Responsible for the care of exhibits and animals. Requires three (3) years experience in general animal husbandry for all taxa. Handles scheduling of keepers. Must have interpersonal skills and be team oriented. Four year college degree with animal curriculum or zookeeping degree preferred. Salary range \$17,000 to \$23,000. Send resume by 1 September 1989 to: Richard M. Hurst, Director of Human Resources, Indianapolis Zoo, 1200 W. Washington St., Indianapolis, IN 46222.

ANIMAL KEEPER/BIRD DEPT...each candidate must have one year paid experience in the care and handling of a variety of birds, excluding pets; or have 6 months experience in the care and handling of animals in a zoological institution, or have a bachelor's degree from an accredited college or university in biology, zoology, animal science or veterinary technology. Eligibility for a driver's license is required. Under the direction of a senior keeper and/or curator. Salary \$15,000 to \$17,000. Resumes should be sent to: Personnel Department Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217. Application deadline 31 August 1989.

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Opportunity Knocks, Continued

ZOOKEEPER...responsible for the general husbandry of a wide variety of animals in a zoo/museum setting; maintenance of exhibits; record keeping; interaction with museum personnel as well as the general public; assist with a junior volunteer program. One year experience working with exotics required. Tuesday - Saturday schedule with some holidays and after hours assignments. Salary \$15,800/year plus benefits. Send resume by 31 August 1989 to: Zoo Dept., New England Science Center, 222 Harrington Way, Worcester, MA 01604.

ANIMAL KEEPER I...the Sunset Zoo, Manhattan, KS is anticipating openings and would encourage those interested to submit resumes for consideration by 31 August 1989. Please send to: City Personnel Department, 11th & Poyntz, Manhattan, KS 66502.

PART-TIME INSTRUCTOR...to work under the direction of the Staten Island Zoo's Education Dept. staff in planning, conducting, and evaluating on-site zoo education programs for school groups (primarily K-6 grades). Qualifications include ability to relate to and teach elementary school children using live animals. Part-time position (approximately 16 hours per week) at \$10.00 per hour. Mid-September 1989 - mid-June 1990. Job specs include: preparation and teaching lessons to lower elementary school children on principles of animal life, zoos, and wildlife conservation; evaluation and modification of programs as needed utilizing input from incoming classes; participation in other specified programs sponsored by the Zoo's Ed. Dept.; recordkeeping and communication with classroom teachers; and assisting in the care of Ed. Dept.'s animal collection. Must possess skills for confident handling of live animals, demonstrate ability to plan, conduct and evaluate lessons in animal and environmental education; work well with elementary school children in classroom setting and have good interpersonal skills. Send resume to: Lorraine Austin, Assistant Director of Education, Staten Island Zoo, 614 Broadway, Staten Island, NY 10310 (718) 442-3174.



A.A.Z.K. Belt Buckles

The San Diego Zoo AAZK Chapter still has a limited supply of these high quality, solid brass belt buckles in the small size (fits a 1" belt). The buckles feature the official AAZK Rhino Logo.

The Chapter plans to terminate this project after the '89 Conference so ORDER NOW! They will be collector's items thereafter!

Cost per buckle is \$16.00 plus \$1.80 each for shipping & handling. Send your name, full mailing address and number of buckles desired along with a check or money order made payable to "San Diego AAZK Chapter" to:

**AAZK Belt Buckles c/o Terri Schuermann
San Diego Wild Animal Park
155500 San Pasqual Valley Road
Escondido, CA 92027**

AAZK Membership Application

Name _____ Check here if renewal []

Address _____

_____ \$25.00 Professional
Full-time Keepers

_____ \$20.00 Affiliate
Other staff & volunteers

_____ \$25.00 International
All members outside the
U.S. & Canada

_____ \$15.00 Associate
Those not connected
with an animal facility

_____ \$15.00 Library
Library subscription only

_____ \$50.00 Contributing
Organizations and
Individuals

Directory Information: Zoo: _____

Work Area: _____

Special Interests: _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), payable to American Association of Zoo Keepers, Inc., to: AAZK National Headquarters, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606.

Membership includes a subscription to Animal Keepers' Forum. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the Animal Keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size no more than 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to Animal Keepers' Forum will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Those longer than three pages may be separated into monthly installments at the discretion of the editorial staff. The editors reserve the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone contributions on late-breaking news or last-minute insertions are accepted. However, phone-in contributions of long articles will not be accepted. The phone number is (913) 272-5821 Ext. 31.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

*Articles printed do not necessarily reflect the
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Animal Keepers' Forum

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September 1989



Dedicated to Professional Animal Care

ANIMAL KEEPERS' FORUM, 635 Gage Blvd., Topeka, KS 66606

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

Featured on this month's cover is a charging Black Rhinoceros (*Diceros bicornis*) drawn by Mark Stettes, a Elephant House Keeper at the St. Louis Zoo, St. Louis, MO. While there are still a fair number of this subspecies found in the wild, the Black Rhino, like all rhino species is endangered and it is governed by an SSP. Black rhinos weigh up to two tons and stand 150-160cm high at the shoulder. They have two horns; occasionally there is even a disposition for a third horn. The body is hairless, except for the tips of the tail and ears. The upper lip is extended and the tip is suitable for grasping. There are no incisors or canine teeth; rather, seven premolars and molars on each side of the jaw. The gestation period for this species is 15-16 months. The St. Louis Chapter recently held a "Rockin for Rhinos" benefit concert--see story under Chapter News. Thanks, Mark!

Scoops

and

Scuttlebutt

Diet Notebook Project Update

AAZK is continuing the Diet Notebook Project. The first volume *The AAZK Diet Notebook - Mammals, Volume I*, is now complete and available through the AAZK Administrative Office at the Topeka Zoo. A second volume of mammal diets and the first volume of bird diets are the next in line to be published. As of 1 January 1990, we will stop collecting diets for these volumes, but we will continue to collect diets for subsequent addition. Please continue to submit diets for all categories. We especially need diets for reptiles, amphibians, fish and invertebrates.

If you would like to participate or receive further information, please contact: Susan Bunn Spencer, Coordinator AAZK Diet Notebook, Minnesota Zoological Garden, 12101 Johnny Cake Ridge Road, Apple Valley, MN 55124.

Centennial Awards for Excellence in Zoo Research Announced

To celebrate the National Zoological Park's Centennial, the National Zoo and the Friends of the National Zoo are sponsoring a competition to promote and reward excellence in zoo research. Any research conducted at a zoological park or aquarium, supported by a zoo, or very clearly and specifically supportive of the mission of zoos is eligible.

Awards will be given for the most meritorious basic or applied unpublished research paper in the fields of behavior, ethology, ecology, molecular and population genetics, nutrition, energetics, reproductive biology, pathology, animal exhibitry, conservation science, veterinary medicine, education, and in all taxonomic groups (e.g. mammology, ornithology, etc.)

Deadline for submission of manuscripts is **30 September 1989**. Awards will be announced in February 1990 and winners will be invited to receive their awards and present a talk on their research at a National Zoo symposium to be held on 27 and 28 April, 1990, just prior to the AAZPA Eastern Regional Meeting scheduled for 29 April to 2 May at the NZP. We also hope to publish the award-winning papers.

For further information about the format for submissions and application materials, please write: Centennial Awards, National Zoological Park, Washington, DC 20008.

ADT Forms Available Upon Request

Animal Data Transfer Forms for zoos and aquariums are available free of charge upon request. This is a service provided by AAZK. Contact: Bernie Feldman, Burnet Park Zoo, 500 Burnet Park Drive, Syracuse, NY 13204. If your facility is not already using the ADT Form, encourage your administration to implement its use whenever an animal is shipped.

R.C. System Undergoing Many Changes

The Regional Coordinator/Chapter Affairs System has been undergoing many changes in recent months. This has included the addition of a number of new R.C. appointments in an effort to better serve the AAZK membership. Please check the R.C. page which appears in each month's AKF to locate your Regional Coordinator. They will be able to answer your questions and assist you in getting information about AAZK, its projects and programs. In the coming issues of AKF, look for updates from Bill Whittaker, Chapter and Regional Affairs Coordinator, explaining some of the changes and improvements in this system.



New TV Series "Peaceable Kingdom" To Explore Challenges of Zoo Operation

"Peaceable Kingdom", a new hour-long family drama set in a major metropolitan zoo will premiere Wednesday, 20 September at 8 p.m. (EST) on CBS. News releases for the series claim "This new prime-time show will tackle tough zoological issues such as quality of life for animals in captivity, the re-creation of natural environments and humane interests versus fiscal reality."

The Columbia Pictures Television series focuses on Rebecca Cafferty (played by Lindsey Wagner), a widowed mother of three children, who has acquired the position of Director of the (fictional) financially-troubled Los Angeles County Zoo. Together with her brother Jed (played by Ted Wopat), the Zoo's Curator of Mammals, she must turn the facility into a profitable operation against almost insurmountable odds. She must also keep peace among the Zoo's human contingent. Just as important, Rebecca must maintain a "peaceable kingdom" within her home, no easy task with three children in need of her time and attention.

In order to insure even greater animal safety on the set, an animal consultant has been employed by the series' producers to oversee their treatment and handling and to coach the cast and crew who will be working with the animal as to appropriate on-set behavior. The animals are being provided by Animal Actors of Hollywood. In addition, a representative from the Humane Society will be on the set at all times.

(Editor's Note: It will be interesting to see how Hollywood portrays zoos and the zookeeping profession in this series. As to seriously addressing the "tough zoological issues" - we will have to wait and see how well they succeed. Done well, this series could be a plus for the entire zoological community. Done poorly, it could negate much of the public education work done in the past few years. We would be interested in hearing your opinion of this new series.)



Coming Events

AZVT 9th Annual Conference

September 22-24, 1989

Calgary, Canada

Hosted by the Calgary Zoo, Botanical Gardens & Prehistoric Park. For more information please contact: Lori Rogers, A.H.T., Calgary Zoo Animal Health Centre, P.O. Box 3036, Station "B", Calgary, Alberta, Canada T2M 4R8 or call (403) 265-9310 local 376.

AAZPA Annual Conference

September 24--28, 1989

Pittsburgh, PA

Hosted by the Pittsburgh Zoo. For more information, contact: Charles Wikenhauser, Director, Pittsburgh Zoo, P.O. Box 5250, Pittsburgh, PA 15206 (412) 665-3639.

15th Annual AAZK Conference

October 1-5, 1989

Syracuse, NY

Hosted by the Burnet Park Zoo AAZK Chapter. See information in this issue including registration/hotel forms in gold insert.

American Pheasant & Waterfowl Society

October 18-21, 1989

Ft. Lauderdale, FL

This convention affords the opportunity to meet people with similar bird interests. Tours will include Miami Metrozoo, the Everglades and Parrot Jungle. Talks by informative and knowledgeable bird breeders as well as panel discussions will be included. To receive a convention packet please write or call: Lloyd Ure, R.R. 1, 164-A, Granton, WI 54436 (715) 238-7291.

17th Annual Conference of the International Marine Animal Trainers Association

Oct. 29-Nov. 3, 1989

Amsterdam, Holland

The Association's first European Conference is hosted by Zeedierenpark Harderwijk. Conference will include paper sessions, poster session, discussion groups, IMATA Trophy Competition, etc. For more information contact: Jeffrey E. Haun, VP/IMATA, NOSC - Code 511, P.O. Box 997, Kailua, HI 96734-0997.

10th Annual Elephant Workshop

November 1-4, 1989

Tulsa, OK

Hosted by the Tulsa Zoo. For further information contact: Larry Nunley, Tulsa Zoo, 5701 E. 36th St. N., Tulsa, OK 74155. Phone (918) 596-2400.

Coming Events. *Continued*

The Eighth Annual Dr. School Conference on Nutrition of Captive Animals

December 8-9, 1989

Chicago, IL

Co-sponsored by the Lincoln Park Zoological Society and the Chicago Park District, the conference will be held at Lincoln Park Zoological Gardens. Topics will include koala browse production and development of alternative feeds, body composition testing of gorillas, natural vs. synthetic Vitamin E as a supplement, and the impact of secondary plant compounds and toxins on browse use. For registration information, contact Lois Stanley, Lincoln Park Zoological Gardens, 2200 North Canon Drive, Chicago, IL 60614, (312) 294-4666.

National Symposium on Urban Wildlife

November 11-14, 1990

Cedar Rapids, IA

Organized by the National Institute for Urban Wildlife, this national symposium will be held at the Stouffer Five Seasons Hotel. It will focus the attention of urban planners, landscape architects, developers, city administrators, natural resource biologists, elected officials, and others on the opportunity and need for wildlife and nature conservation in metropolitan America. For further information contact: Dr. Lowell Adams, Symposium Program Chairman, National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044 (301) 596-3311.



AAZK Announces New Professional Members

Joseph Kurtenbach, Roger Williams Prk Zoo (RI)	Michele Ciarcia, Beardsley Zoo (CT)
Robert Gramzay, Central Prk Zoo (NY)	Vivian Simons, Central Prk Zoo (NY)
James Mejeur, Central Prk Zoo (NY)	Sue Mackower, Central Prk Zoo (NY)
Jennifer Campbell, Kings Dominion Wild Animal Safari (VA)	
Dwight Arnett, Kings Dominion Wild Animal Safari (VA)	
Al Porta, Philadelphia Zoo (PA)	Sheryl Staaden, Riverbanks Zoo (SC)
Roberta Robinson, Jacksonville Zoo (FL)	Kelly Webb Fad, Cypress Gdns (FL)
Patti Brinkley, Monkey Jungle (FL)	Cheryl Rash Jones, Knoxville Zoo (TN)
Paul J. Fiocca, Akron Zool. Prk. (OH)	Eduardo Perdon, Binder Prk. Zoo (MI)
Christine Barnes, Binder Prk. Zoo (MI)	Laura Ritchie, St. Louis Zoo (MO)
Cheryl Renshaw, Audubon Prk. Zoo (LA)	Thom Rodriguez, Houston Zoo (TX)
Ann Zobrist, Denver Zoo (CO)	Christopher Stermer, Marine World (CA)
Heather Tomaso, Metro Toronto Zoo (Ontario)	Wendy Keeling, Valley Zoo (Edmonton)
Michele Kuberski, West Edmonton Mall (Edmonton)	

New Contributing Members

Comune Roma-Serv. Giardino Zoologico, Rome, Italy

Renewing Contributing Members

Don James Seward, Bluebird Gap Farm, Hampton, VA



From the President

The conference in Syracuse is but a few weeks away. This year again will feature several days of talks on studies, new concepts and current issues by your colleagues throughout North America and possibly around the world. Take time during the conference to learn what is happening at other zoos. New perspectives are essential to everyone in zoos if we are to keep pace with the demands of the times.

We are still seeking bids for the 1991 conference. Any chapter interested in hosting a conference in two years should contact Oliver Claffey or myself immediately. We can let you know what is involved with a conference bid presentation.

The closed Board meeting this year will begin at 9:00 a.m. on Saturday, 30 September. The closed meeting allows Board members time to discuss and clarify all AAZK projects, future directions and determine budgets and courses for many of our committees.

None of our discussions will be permanent until the membership is given the opportunity to discuss them during the open Board meeting which follows on Sunday, 1 October. This session is open to all members and is your opportunity to voice suggestions, comments and any criticisms as to the action of the Board of Directors. Any committee chairpersons attending the conference are urged to attend the meeting. Each committee, project or proposal will be summarized for those attending and discussion will follow according to the protocol outlined below. Any business which requires further discussion will be scheduled during the conference week.

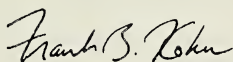
The Sunday meeting will commence at 8:30 a.m. and adjourn at 12:00 for lunch. We will reconvene at 1:30 p.m. and continue until 6:00 p.m. unless business is completed earlier.

If the agenda published here for the Open Board Meeting schedule for Sunday changes, a new agenda will be posted on the meeting room door beforehand. We hope to have annual reports from each committee available for all members to read.

Once the meeting is in session we will discuss each of the activities for the past year for each committee. Any members with questions or suggestions may participate. The President will act as Presiding Officer at this Board meeting and will be responsible for determining the direction of these sessions. The Vice-President will monitor debated topics in order to keep business moving. Another Board member will act as timekeeper for any items requiring lengthy discussion. If more time is required to discuss specific topics within a project or committee, all discussion will end and a core group will be delegated to resolve the situation at sometime during the week and report their results to the Board before the conference ends.

All members attending will be expected to adhere to these guidelines in order to expedite board business for all those attending. Any member who wishes to address the Board should contact me prior to Saturday, 30 September.

Following are the agendas for both the closed and open Board Meetings for the Syracuse Conference.



Frank B. Kohn, President

Agenda for 1989 National AAZK Board Meetings Syracuse, New York

Closed Board Meeting Saturday, 30 September, 1989

Morning 9:00 a.m. to 12:00 noon

ADMINISTRATIVE OFFICES -	Membership	1988 Budget
	Finances	Computer
	Wages	Accessories

Animal Keepers' Forum

Publications -	Directory
	Book Reviews
	Zoonoses
	Diet Notebook
	Approach to Zookeeping
	Handbook of Mother-Reared Infants
	Costs
	Proceedings

BOOK REVIEWS
NOMINATIONS & ELECTIONS COMMITTEE
REGIONAL COORDINATOR SYSTEM 1
RESOURCE MANUAL
AAZK HISTORY & REVIEW
INTERNATIONAL AFFAIRS COMMITTEE
BY-LAWS REVIEW

Afternoon 1:00 to 5:00 p.m.

KEEPER EDUCATION COMMITTEE
PUBLIC EDUCATION COMMITTEE
 Zookeeping as a Career Brochure
KEEPER TRAINING MATERIALS IDENTIFICATION PROJECT
PUBLIC RELATIONS LIAISON
RESEARCH/GRANTS COMMITTEE
AWARDS COMMITTEE
AAZK LIAISON TO AAZPA/IZE
ANNUAL CONFERENCES
 Syracuse
 New Orleans
 1991
 1992
CONFERENCE BOOK COMMITTEE
LIBRARY RESOURCES/REFERENCE SEARCH
PROGRAM LIBRARY
LEGISLATIVE ADVISOR
STAFF EXCHANGE
KEEPER ACCOMMODATIONS LIST
AAZK FORMS
 Animal Data Transfer Form
 Exhibit Design Form
ZOO/UNIVERSITY PROJECT
VIDEOTAPE PROJECT
REGIONAL COORDINATOR 2/CHAPTER AFFAIRS
 CHAPTER PRODUCTS - Stickers/Decals, Mugs, Belt Buckles, T-Shirts, Bumper
 Stickers, License Plates, Safety Signs
 CHAPTER PROJECTS
PROPOSALS
 Fundraisers

Open Board Meeting Sunday, 1 October, 1989

Morning 8:30 a.m. to 12:00 noon

Proposed Agenda:

ADMINISTRATIVE OFFICES - Membership
 Finances
 Wages
 1988 Budget
 Computer
 Accessories

Animal Keepers' Forum

Publications - Directory
 Book Reviews
 Zoonoses
 Diet Notebook
 Approach to Zookeeping
 Handbook of Mother-Reared Infants
 Costs
 Proceedings

AAZK FORMS

 Animal Data Transfer Form
 Exhibit Design Form

BOOK REVIEWS

NOMINATIONS & ELECTIONS COMMITTEE

AWARDS COMMITTEE

AAZK LIAISON TO AAZPA/IZE

RESOURCE MANUAL

AAZK HISTORY & REVIEW

INTERNATIONAL AFFAIRS COMMITTEE

BY-LAWS REVIEW

VIDEOTAPE PROJECT

Afternoon 1:30 to 5:00 p.m.

KEEPER EDUCATION COMMITTEE

PUBLIC EDUCATION COMMITTEE

 Zookeeping as a Career Brochure

KEEPER TRAINING MATERIALS IDENTIFICATION PROJECT

PUBLIC RELATIONS LIAISON

RESEARCH/GRANTS COMMITTEE

ANNUAL CONFERENCES

 Syracuse

 New Orleans

 1991

 1992

CONFERENCE BOOK COMMITTEE

LIBRARY RESOURCES/REFERENCE SEARCH

PROGRAM LIBRARY

LEGISLATIVE ADVISOR

STAFF EXCHANGE

KEEPER ACCOMMODATIONS LIST

ZOO/UNIVERSITY PROJECT

REGIONAL COORDINATOR/CHAPTER AFFAIRS

 CHAPTER PRODUCTS - Stickers/Decals, Mugs, Belt Buckles, T-Shirts, Bumper
 Stickers, License Plates, Safety Signs

 CHAPTER PROJECTS

PROPOSALS

 Fundraisers



Births & Hatchings



Reid Park Zoo (Tucson, AZ)...announces the birth of a baby Brazilian tapir (*Tapirus terrestris*) on 14 July. The male infant is the sixth viable member of its species to be born at the facility. All have been fathered by Caesar, a wild-born male who is 23-years-old, and Watermelon, a captive-born 14-year-old female. Tapirs are in the same taxonomic order as horses and rhinoceros - Perissodactyla. The tapir family is on exhibit for the public. *from Reid Park Zoo News Release.*

Denver Zoo...B&H highlights from March through June 1989:

Birds - we now have two pair of breeding Buff-throated sunbirds (*Nectarinia adelbertii*) in our Bird Propagation building. Susie Haeffner, nine-year veteran propagation keeper, has been busy collecting spiders for our third chick hatched this year. A Toco toucan was successfully hatched for the first time at our zoo, but unfortunately lived only two days. Other significant hatchings include: 0.0.3 Short-tailed magpies (*Cissa thalassina*), 0.0.2 Magellan geese (*Chloephaga picta*), 0.0.2 Two-wattled cassowary (*Casuarius casuarius*), 0.0.2 Black-headed gonoleks (*Laniarius barbarus*), 0.0.1 Sun biter (*Eurypyga helias*), 0.0.1 White-quilled black bustard (*Afrotis atra afroides*), 0.0.1 Green junglefowl (*Gallus varius*) and 0.0.5 Koklass (*Pucrasia macrolopha*).

Mammals - 0.1 Arctic wolf (*Canis lupus hudsonicus*) was born in the new Wolf Woods exhibit. She will be an important addition since the pack will not accept any newly introduced individuals. 1.1 Lesser kudu (*Tragelaphus imberbis*) are added to the population of approximately 22 animals in all of North America. 0.0.4 Pronghorn (*Antilocapra americana*) were finally born after two years without any young. We also received 0.1 from the Colorado Division of Wildlife. 0.1 Hippo "Bridget" (*Hippopotamus amphibius*) was born near St. Patrick's Day. We lost our last two hippos born so she is special. SSP births include: 0.2 Scimitar-horned oryx (*Oryx gazella dammah*), 1.1 Snow leopards (*Panthera unica*) and 1.1 Przewalski's horses (*Equus przewalski*). *submitted by Gail Suzanne Chacon, Seasonal Keeper, Denver Zoo, Denver, CO.*

Central Arizona Chapter AAZK...at the Phoenix Zoo the months of June and July have resulted in several first-time hatchings including 0.0.3 Black-necked stilts (*Himantopus mexicanus*), 0.0.3 Roadrunners (*Geococcyx californianus*), 0.0.1 Plain colored Amazon parrot (*Amazona farinosa*), 0.0.2 Green-naped lorries (*Trichoglossus haematodus*), and 0.0.9 (0.0.1 DNS) White-faced whistling tree ducks (*Dendrocygna bicolor*). All hatchlings are being parent-reared.

Significant mammal births include: 2.2 (1.1 DNS) Pronghorn antelope (*Antilocapra americana*), 1.0 South Chinese leopard (*Panthera pardus delacouri*), and 1.0 Grevy's zebra (*Equus grevyi*) born to our 20-year-old female, "Thumb".

Recent acquisition include: 1.1 Golden-rumped agouti (*Dasyprocta aguti*) from the San Antonio Zoo, 1.0 Asian small-clawed otter (*Aonyx cinera*), from the Reid Park Zoo, and 0.1 Sumatran tiger (*Panthera tigris sumatrae*), from Jakarta, Indonesia. The recently acquired female will join a pair of Sumatrans that were acquired in the fall of 1988 and will be included in the SSP breeding program.

The Primate Foundation of Arizona announces the birth of 1.1 Chimpanzees (*Pan troglodytes*). A male was born to Sabrina, an experienced mother living in a small group. The group consists of herself and her five-year-old daughter along with another adult

Births & Hatchings, Continued

female and her five-year-old daughter and 10-month-old infant. The group is very stable and there are no plans to break it up.

Tuppence, a primiparous 18-year-old gave birth to a female on 13 July 1989. She had had the chance to conceive at a different facility but didn't until a year ago at the Primate Foundation. Although a first infant at 18 years of age is unusual, Tuppence is proving to be an excellent mother. *submitted by Anita Schanberger, Chapter Liaison, Central Arizona AAZK Chapter.*

Columbus Zoo...During the months of June and July, highlights at the Columbus Zoo included first-time hatchings of several waterfowl species, a significant increase in our Bongo antelope population, and the acquisitions of an Alaskan moose calf and a very interesting species of rodent, the Mountain beaver.

The Bird Dept. had first-time hatchings of three species of waterfowl obtained in 1988: 0.0.3 Pintail ducks (*Anas acuta*), 0.0.3 (2 DNS) Chestnut teal (*Anas castanea*), and 0.0.3 (DNS) Cinammon teal (*Anas cyanoptera*). They are also pleased to announce the hatching of 0.0.3 Black-necked swans (*Cygnus atratus*). This species is difficult to breed in captivity and the cygnets are hard to raise. Our zoo's diet for the cygnets consists of Duck Starter, chopped greens, alfalfa sprouts, Vionate, and oyster shell with water added. This soupy mix is fed in food bowls along the edge of the exhibit's pool. Other notable waterfowl hatchings include 0.0.1 (DNS) Wood duck (*Aix sponsa*) and 0.0.1 Mandarin duck (*Aix galericulata*).

One of the most notable occurrences in the Mammal Dept. for these months was the increase in our Bongo antelope (*Taurotragus eurycerus isaaci*) population by three, one by birth and two by acquisition. On 16 June, our four-year-old female Haifa gave birth to a female calf. Much to our great surprise and relief, she displayed excellent maternal care with this calf from the onset. She failed to nurse and care for the previous offspring, but since he was her first this is not too surprising. Haifa was imported to Columbus from the Basel Zoo in 1986 and thus adds a new bloodline to the U.S. population. The father is once again Apollo, a four-year-old bull on breeding loan from the Walter Stone Zoo in Boston. Just prior to this birth, on 13 June, we received 1.1 Bongo antelope from White Oaks Plantation in Yulee, FL. The bull is also four years old and the cow is close to two. Both of these animals were purchased by Columbus and will be integrated into our growing herd. Our zoo is pleased to begin expanding our role in breeding and displaying these magnificent antelope.

There were several other notable events in our ungulate collection these months. Our Pronghorn (*Antilocapra americana*) collection continues to experience breeding success. On 6 June, 1.1 were born and on 6 June, another doe has 0.1. Our group also continues to grow by acquisition. On 20 July, we received a female, born 29 May, from the Los Angeles Zoo; and on 27 July another female, born 30 May, came in from the Phoenix Zoo. These two fawns are currently being raised in our Children's Zoo nursery prior to introduction into the adult herd. Pronghorn are common in the wild, but are relatively scarce in captivity due in particular to their aversion to humidity and to their extremely nervous temperament.

On 16 June, we received our first Alaskan moose (*Alces alces gigas*), a female orphan caught by the Alaskan Fish and Game Dept. and raised at the Alaska Zoo prior to coming to Columbus. She is being bottle-fed on a special formula and is also eating a lot of solid food. (She has a special fondness for willow and other browse.) An exhibit is currently under construction for this largest member of the deer family. Like pronghorn, moose are seldom displayed in captivity, mainly because of climate, dietary and parasite complications. On 4 July, we received a yearling male Topi (*Damaliscus lunatus topi*) originating from Busch Gardens in Tampa to replace the breeding bull we lost awhile back. Although one of the landmark species of the Serengeti and other African ecosystems, topi are not frequently seen in the U.S. They are particularly noted for their habit of standing on termite mounds and other elevated areas to scan for predators and, in the case of the dominant bull, to advertise their territories to females and rivals.

Births & Hatchings, Continued

Last, but definitely not least, a most fascinating rodent species came to Columbus on 29 June when we obtained a female Mountain beaver (*Aplodontia rufa*) that was donated to us from the Northwest Trek Wildlife Park in Tacoma, WA. Although not terribly exciting to look at (ours looks like a small grey gopher), mountain beavers have a number of interesting features. First, they are apparently very misnamed, as they are not beavers nor do they confine themselves to mountains. They are the only living species of their genus and family, and are considered the most primitive of all rodents. They spend most of their time burrowing underground and they eat a variety of vegetation. They are purported to have an unusually high water requirement. Perhaps the most fascinating aspect of mountain beavers is the fact they play primary host to the world's largest species of flea (one-third of an inch long!), but they never seem to get lice! Northwest Trek is the only other place we know of that has had them and, according to literature they sent us, the beavers have never bred in captivity. Our female was wild-caught and is estimated to be about five months old. She is currently residing in our general curator's office until a display area is found for her. At least he now has somewhat of a legitimate excuse to have a dirty office! submitted by Carl Gyarmaty, Columbus Zoo, Columbus, OH.

Detroit Chapter AAZK...B&H at the Detroit Zoo from 1 January through 30 June 1989 include:

Mammals - 2 Ringtailed lemur (*Lemur catus*) and 3 Japanese macaques (*Macaca fuscata*). We have had many successes in propagating these while following a non-interference policy of allowing them to be mother-reared. Two Scimitar-horned oryx (*Oryx dammah*) bringing our herd up to 7.5. 2.0 Wapiti (*Cervus elephas canadensis*), makes an increase from last year's 2.3. Two Blesbok (*Damaliscus dorcas philipsi*) - these babies have not been caught up and sexed because they are sharing an exhibit with, among other things, nesting flamingos. One Formosan sika deer (*Cervus nippon taiwanus*), as yet unsexed and untagged. 0.1 Bactrian camel (*Camelus bactrianus bactrianus*) - the baby is doing quite well with his mom and two other adult females. The father has shown definite aggression toward other calves in the past and so is kept separated for now. 1.0 American bison (*Bison b. bison*) - although bison are no longer endangered as before, we are pleased with our population and of course our bison calf is extremely popular with our visitors. Our barnyard exhibit boasts several births including 1.1 Nubian goats (*Capra hircus*), 0.1 Romney sheep (*Ovis aries*), and 0.0.7 Yorkshire pigs (*Sus scrofa*). One Matschie's tree kangaroo (*Dendrolagus matschiei*) - the baby is often seen outside the pouch now and even climbs his tree with his mother. One Patagonian cavy (*Dolichotis patagona*) was born in one of our few single-species exhibits. 0.1 Black rhinoceros (*Diceros bicornis*)--this little female is doing quite well. Her diet was supplemented for awhile, but now she eats just like one of the gang.

Birds - one Lesser snow goose/Blue goose (*Anser caerulescens caerulescens*) - the morning after the hatching mom, pop and the baby were discovered touring the park at large. Ten Egyptian goslings (*Alopochen aegyptiacus*) - all are doing splendidly although they have the run of a very large exhibit and we see occasional raccoons, opossums and owls. Two Speckled mousebirds (*Colius striatus*) - after several months of total disinterest in nesting, we have hit upon the right nesting situation using platforms near the ceiling, and now there's no stopping them. Five Laysan teal (*Anas platyrhynchos laysanensis*) - as last year, mom presented us with her newly hatched chicks after an absence of a few weeks during which we could not find her. She and her kids are friendly enough that we had to remove them from the walk-in aviary to protect them from the public. Our penguin keeper now has another Rockhopper penguin (*Eudyptes cerstatus*) and keeps busy with extra feedings and as the baby grows must pile rocks higher around the nest to keep the youngster from falling into the water. When the chick is bigger and able to get over the rocks, it will be removed from the exhibit until it is old enough to negotiate the water as well, at which time it will be returned to the exhibit. Finally, two Common barn owls (*Tyto alba*) - after a false start early this year, our owls have raised these two without apparent problems. They are housed in the barnyard (where else?) and have an approximately 1 1/2' x 2 1/2' nestbox suspended about two feet down from the ceiling. submitted by Leslie Keys, Secretary, Detroit Zoo AAZK Chapter, Detroit Zoo, Royal Oak, MI.

Births & Hatchings, Continued

Cheyenne Mountain Zoo...significant B&H from April through July 1989 include:

Mammals - 0.0.1 Siamang (*Hylobates syndactylus*), 1.0.1 Musk ox (*Ovibos moschatus wardi*) and 0.1 Suni antelope (*Neotragus moschatus akeleyi*). 1.0 Reticulated giraffe (*Giraffa camelpardalis reticulata*) was born on 17 July and is being bottle fed. Cheyenne Mountain Zoo has an outstanding breeding history for this species and holds the world's record for births. Another outstanding birth was a male Bornean orangutan (*Pongo p. pygmaeus*) born on 8 July. This is a first offspring for the sire and although a second offspring for the dam, this is the first baby that she has raised.

Birds - Another King vulture (*Sarcorhamphus papa*) hatched on 26 July and is being hand-raised. 0.0.1 D'Arnaud's barbet (*Trachyphonus darnaudii*) hatched but DNS. This is a first for this species at CMZ. Cheyenne Mountain Zoo participates in the experimental program for releasing Andean condors in California and Columbia. An Andean condor egg (*Vultur gryphus*) was sent to Los Angeles earlier this year and hatched on 10 July 1989.

Reptiles - 0.0.13 Southern copperhead (*Agkistrodon contortrix contortrix*) was born on 29 July (0.0.1 DNS). We believe that this is the world's record for Southern copperhead births. *submitted by Nanette Bragin, Chapter Liaison, Cheyenne Mountain Zoo AAZK Chapter, Colorado Springs, CO.*

Bronx Zoo...announces the following significant B&H for the months of June and July 1989. The Dept. of Mammalogy is pleased to announce the birth of 2.1 Mongolian Wild Horse (*Equus przewalskii*) foals. This brings the total births this year to 7 from the Bronx Zoo's breeding herd of 10 males and 17 females. These equids are known only in captivity and are considered nature's only true wild horses. The Bronx Zoo participates in the SSP for this species and has contributed 70 offspring over the years that they have been in the collection. Conservationists hope to re-introduce this historic horse to its former home in the steppes of Mongolia.

2.3.3 Formosan sika deer (*Cervus nippon taiounus*) were born this June. The Bronx Zoo maintains one of the major breeding programs in the country for this endangered (IUCN) species. These delicate deer are one of the few species of Cervidae to keep their spots year-round.

A Rodriguez fruit bat (*Pteropus rodricensis*) also known as Rodriguez flying fox, was born this July, adding to the captive population. The Bronx Zoo, along with the Jersey Wildlife Preservation Trust, hope to increase the survival of this species which is endemic to the islands of Rodriguez in the Indian Ocean. Only 30 years ago thousands of these now endangered (IUCN) bats could be found on their island habitat--today there are only a few hundred remaining.

The Dept. of Ornithology is proud to announce the hatching of a Mauritius pink pigeon (*Columba mayeri*). These large pigeons are CITES listed as Appendix III and endangered (IUCN). A regional studbook is kept by Senior Keeper Kurt Hundgen of the Bronx Zoo. Changes in the diet, mainly the addition of Vitamin E, have improved the hatchability of this species. The chicks are foster-reared for 10 days by ring-necked doves as the crop milk produced by the adults is difficult to simulate. They are then moved to the Brooder Room where they are hand-reared until fledging.

Another endangered bird that the Bronx Zoo has bred well is the Hooded crane (*Grus monacha*). A studbook exists for this species and a management plan is being developed in cooperation with the Gruidae Advisory Group. Our pairs have bred on a yearly basis since 1975, hatching 0.0.2 chicks this June. Cranes are monogamous and are well known for their beautiful courtship dances during which they bow, leap, run, and toss sticks in the air.

0.0.3 Malay peacock pheasants (*Polyplectron malacense malacense*) hatched in June and July, bringing our total for this year to 14 offspring of these lovely birds. Less lovely but

Births & Hatchings, Continued

very unusual looking are the 0.0.3 Boatbill herons (*Cochlearis cochlearis*) that hatched in June. They can be seen in the Aquatic Bird House.

The Herpetology Dept. was pleased to announce the hatching of 4.2 Dumerils ground boas (*Acrantophis dumerili*). This is the third year they have bred successfully. The Bronx Zoo participates in the SSP for this species. Last year 13 of the 15 offspring were shipped to other collections to strengthen the gene pool. submitted by Wendy Worth, Chapter Liaison, Bronx Zoo AAZK Chapter, Bronx, NY.

North Carolina Chapter AAZK...reports notable B&H for April through July 1989 from each participating institution:

Duke Primate Center...noteable births at Duke include 2.0 Blue-eyed or Slater's lemur (*Lemur macaco flavifrons*) on 22 March and 11 June. Duke presently houses the only nine *L. m. flavifrons* in captivity in North America. This very endangered subspecies will soon be included with *Lemur macaco macaco* (Black lemur) as an SSP species. On 23 April and 22 May, we had the births of one single and one set of twin Gray gentle lemur (*Hapalemur griseus*). As far as we know, twins have never been reported in this species before. The mother of the twins had been a pet in Madagascar, did not exhibit normal social behavior, was aggressive to people, and was primiparous. We feared that she would not display normal maternal care. This species parks its infants--when the parked infant made a distress call the female ignored it, and only responded to the infant nursing on her. Because we were worried about her ability to keep track of both infants, one was pulled to hand-raise. This infant is doing fine and is being introduced to another group to socialize him. The mother-reared infant is also doing fine. Another significant birth occurred 29 April when a pair of recently wild-caught Red ruffed lemurs (*Varecia variegata rubra*) produced a single infant. Prior to this birth, there were only eight founders of the captive Red ruffed lemur population. This birth now increases from eight to 10 the number of effective founders of the approximately 200 Red ruffed lemurs in captivity worldwide. submitted by Ruby Ange, Duke University Primate Center, Durham, NC.

North Carolina Zoological Park...on 8 June, a male Debrazza's monkey (*Cercopithecus neglectus*) was born in the African Pavilion. This is the first birth of this species for our zoo and keepers report that he is doing well. He is nursing and eating some solid foods and seems to be growing at a healthy rate. On 22 May, a male Kirk's dik-dik (*Madoqua kirkii*) was born and is currently with its parents. This makes several of this species that have been successfully born and raised at our institution. Also, four Troupials (*Icterus icterus*) were hatched in our Forest Aviary. The North Carolina Zoological Park is proud to be one of the very few institutions who have successfully bred these beautiful South American birds. submitted by Cynthia Noe-Hanson, Secretary/Chapter Liaison, North Carolina Chapter AAZK.

Metro Toronto Zoo... reports not a birth or hatching but the loss of Canada's largest captive animal with the death of Tantor, a 21-year-old African Bush Elephant (*Loxodonta africana africana*) who had resided at the zoo since July of 1974. Born in Mozambique, East Africa, Tantor was orphaned at a early age, rescued by government forces, and sent to an animal dealer in Germany. From there he was purchased for the then soon-to-be-opened Metropolitan Toronto Zoo. During his years at the zoo, Tantor sired four calves including "Thika", the first elephant born in Canada.

The exact cause of death will not be known until a complete postmortem and tests are completed at the University of Guelph. It is suspected that the death was a result of complications following surgery to remove a badly abscessed left tusk. The tusk was removed by a surgical team from the zoo, the University of Guelph, and two elephant dental specialists from Florida, who were brought in to assist in the difficult, but necessary, procedure. The surgery took several hours, and Tantor recovered in an apparently normal manner. After approximately four hours, he lay down and died.

Tantor was the largest animal in Canada, standing 11' 2" at the shoulder, and weighing 14,300 pounds. The zoo is left with eight female elephants, and will seek a suitable male replacement, so that the breeding program for these seriously threatened animals can continue. --from Metro Toronto Zoo News Release, 3 August 1989.





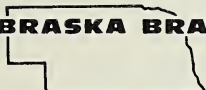
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MEMO:

TO: All AAZK Members

FROM: Bill Whittaker, Director of Regional and Chapter Affairs

RE: Regional and Chapter System

As our organization has grown, it had undergone changes and encountered some problems. The main problem is one that has plagued us for years: our inability to find an effective means of networking our membership. They are the foundation of our organization - they are our organization. We are a professional association formed to be a support system for the promotion of our goals and ideals. We believe that 25% or less of the working members of our profession belong to AAZK. We are not doing well when one of the major zoos in the U.S. (and in my own state of Ohio) has only four professional members. We need to ask ourselves some hard questions and give frank and honest answers. For example:

1. What are the goals and ideals of the majority of our profession?
Nurturing life? Conservation? Putting bread on the table? Clothes on our children?
2. Does our organization accurately and effectively represent the goals and ideals of the majority of zoo keepers?
3. How can AAZK be taken seriously by AAZPA, zoo managements or anyone when 75% or more of our own don't take us seriously enough to join?

We have prepared a national zoo keeper survey/census to get a detailed picture of our profession. The survey will be ready in time for the National Conference in Syracuse. It is our intention to survey/count, anonymously, every keeper we can reach. In order to accomplish this goal, we need to revamp the regional/chapter system, weaving it into a network that touches every keeper.

We have redefined regions along geographical parameters, a natural pattern, such as great lakes, mountain, plains, coastal, etc., removed the limit of one RC per region, and established new guidelines for appointing RC's and Liaisons to help insure we get the right people: doers, not talkers.

The RC's are responsible for networking their region. At the present time, the most effective way to achieve this is by establishing a Liaison Committee (LC). A liaison from every animal care facility in the region will sit on the LC. The Liaisons are responsible for networking in their facility and the most effective way to accomplish this is by forming a chapter. Liaisons should initiate chapter formation at every institution where it is feasible. Chapters function effectively with as few as 3 or 4 members who direct the chapter's activities on a regular basis, with a second group of members who act as support when needed.

Volia! A web that can touch every zoo keeper...in theory! The web is only as strong as the thread that is used to weave it, which in this case is people: RC's Liaisons, Officers. If RC's fail in their responsibilities, a whole region and hundreds of members can become cut off, isolated with little or no contact with the central administration. Some members lose interest, become frustrated and bitter. Some drop out and are resentful; others devote themselves to their chapter and forget about the National Administration. They go their own way. This leads us to another major problem.

Over the years, ineffective communication and a lack of continuity in the RC System due to rapid growth, encouraged many chapters to develop a strong feeling of independence. They survived without any support from the central administration, "The National". A few had become adversaries, them and us. This has lead to an unfortunate misconception

MEMO: RC/Chapter System, *Continued*

that there is a distinction between chapters and "The National". This is absolutely not true. The chapter and National are the same - AAZK. AAZK is its membership. This means all AAZK assets and liabilities, whether chapter or National, belong to all the members. AAZK is responsible for every cent that moves in its name. That means it is accountable to the Internal Revenue Service. The Regional/Chapter System did not have a financial policy that satisfied this legal requirement. So far as we know, not a single chapter had ever submitted an annual financial statement to the central administration, nor had they been asked to do so. AAZK is currently working with all chapters to see that such records are properly filed and are in compliance with all legal requirements. Our bookkeeping deficiency is further compounded by the fact that we are applying for a 501 (c) 3 status with the IRS. This non-profit status would grant us a number of benefits, one of the most important being tax-deductible status for donations to AAZK. In order to receive and maintain the 501 (c) 3, you are under constant scrutiny by the IRS. Therefore, all chapters must conform to the new financial protocol. If you have any questions, please contact your RC, Barbara Manspeaker in Topeka, or myself.

Not only do we need a uniform fiscal policy, but our national revenues have been insufficient to meet our obligations. Please refer to July AKF under the "From the President" message. Obviously something must be done immediately to correct this situation.

We need your input and help! If there ever was a time to stand up and be counted, it is now! AAZK is your organization. If you are committed to professional animal care, get involved! Unsure as to how you can help? Contact me, we will find a way that fits your unique talents, personality, and schedule. We believe that in the long term we need to improve AAZK's image and increase our professional membership by making AAZK more attractive and responsive to individual keepers. I will keep you informed of our progress in future issues of AKF. If you make it to Syracuse, look me up.

P.S. At the mid-year Board meeting, a proposal to sponsor a national "Bowling for Rhinos" fundraising event was approved. The event is tentatively set for the the last week in February 1990. Watch for more information in the October AKF.



Information Please

As part of our long-range planning process at The Berkshire Museum, I have been asked to develop a separate "mission statement" for our aquarium and would appreciate input from other zoos and aquariums. I am also interested in AAZK members' ideas relating to obtaining captive-bred specimens vs. specimens available through the pet trade. Finally, I am gathering promotional material on Adopt-An-Animal-type of fundraising. Please send information to: Thom Smith (Aquarium Director), The Berkshire Museum, Pittsfield, MA 01201.



© Barbara J. Breen



Book Review

Primate Societies

Edited by Barbara B. Smuts, Dorothy L. Cheney,
Robert M. Seyfarth, Richard W. Wrangham
and Thomas T. Struhsaker
University of Chicago Press, 1987
5801 S. Ellis Ave., Chicago, IL 60637
578 pp. Cloth \$70; Paper \$27.50

*Review by Michael Seres
Primate Care Specialist
Yerkes Regional Primate
Research Center, Field Station
Emory University
Lawrenceville, GA.*

Primates are currently among the most intensively studied members of the animal kingdom, and the amount of information gathered about these animals in the last 20 years is tremendous. Primate Societies describes in detail the behavior and social organization of primates in nature, and as such serves as an important reference for zoo personnel working with primates in captivity.

This valuable book covers an impressive variety of subjects. More than 40 contributors have presented papers dealing with such topics as: communal care of offspring; variations in group size; infanticide; foraging behavior; predation; demography and reproduction; female-female and adult-infant relationships; sexual behavior; aggression; visual and olfactory communication; intelligence of primates; primate conservation; and the future of primate studies -- just to name a few!

Six chapters are of particular value to those working with captive primates. Bearder's paper on prosimians (chapter 2) describes the complex social patterns of these nocturnal animals which, until the last decade, were thought to be solitary. Goldizen presents a fascinating review of communal care of offspring in tamarins and marmosets (chapter 4); relatively little is known about some of these forest-dwelling New World primates.

The papers by Harvey et al. (chapter 16) and Hrdy and Whitten (chapter 30) compare life histories and sexual behavior of numerous species of primates, providing a wealth of readily accessible information for the primate keeper. The papers by Waser (chapter 18) and Cheney (chapter 22) will be particularly useful to zoo managers planning mixed species exhibits, as they provide information regarding interspecific and intraspecific group interactions.

The other chapters are also loaded with information, the tables and figures are of high quality, the bibliography is extensive (50 pages), and the index is detailed. In short, Primate Societies is a must for zoo librarians as well as individuals who work with primates. It is the foremost survey of the social behavior of primates in nature, and for \$27.50 (paperback) it's a real bargain.



Conference '89.....

October 1-5, 1989
Syracuse, NY



Syracuse Conference '89 Tentative Schedule

Sunday, 1 October

- Open Board Meeting
- Ice Breaker

Monday, 2 October

- Breakfast
- Paper Sessions
- RC Meeting

Tuesday, 3 October

- Tour of Ross Park Zoo
- ZOOlympics
- Australasian Rap Session

Wednesday, 4 October

- Awards Breakfast
- Paper Sessions
- Silent Auction

Thursday, 5 October

- Tour of Burnet Park Zoo
- General Membership Meeting
- Banquet

Friday, 6 October

- Post Conference Trip to the Aquarium of Niagara Falls, Buffalo Zoo and sight-seeing in the Niagara Falls area.

Here are some of the papers that will be presented at the Syracuse Conference.

- Waste Reducation Program at the Metro Toronto Zoo
- "Magnet" Assisted Zoo Education
- Ngare Sergoi Update
- Creation and Operation of a Natural Hummingbird Exhibit
- Zoo Atlanta's Search for the Red Ape
- Management and Breeding of White Rhinos at the Jacksonville Zoo
- Handrearing and Development of Fisher
- A Tropical Renaissance: It's All in a Day's Work

And there's more to come.....

The Post-Conference Trip

The Post-Conference Trip is scheduled for October 6th and 7th following the Conference. The tour will include a behind-the-scenes tour of the Buffalo Zoo and a special marine mammal demonstration at the Niagara Falls Aquarium. Overnight will be spent at the Niagara Falls Hilton. Breakfast will be provided Saturday morning. A bus tour of the Falls area will be available Saturday afternoon prior to the return trip to Syracuse. Seating is very limited.

You must reserve your space by September 10th. You may reserve by calling the Zoo or adding a note to your Conference Registration Form. The price for the tour is \$89 which includes busing, hotel, breakfast and tour of the Falls. Admission to the Buffalo Zoo and Aquarium of Niagara Falls are compliments of those institutions.

1989 AAZK Conference Registration Form

**October 1-5, 1989
Syracuse, New York**



**PLEASE TYPE OR PRINT
(one name only per form please)**

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Address _____

City _____ **State/Province** _____

Zip Code _____ **Telephone #** (____) _____

Zoo Affiliation _____

AAZK Committee Member _____

Is this your first AAZK Conference? ____ **Yes** ____ **No**

I will be submitting a paper ____ **Yes** ____ **No**
(\$25.00 will be refunded from registration fee on acceptance of paper)

Participating in Zoolympics: ____ **Yes** ____ **No**

I am bringing an auction item: ____ **Yes** ____ **No**

(Describe briefly) _____

Vegetarian: ____ **Yes** ____ **No (Specify type)** _____

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ARRIVAL date and time: _____

AAZK membership status and fees:

Member or Spouse	\$65.00
Non-member	\$80.00
Late Fee	\$10.00 (after 1 Sept. 1989)
Conference Proceedings	\$ 5.00*

Total fees enclosed \$ _____

***Proceedings are available to conference delegates at \$5.00. Price after 6 October 1989 will be \$7.00/member and \$10.00/non-member.**

Daily rates for individual events are available. Contact ALAN BAKER for details (315) 478-8511.

Please make payment to: BURNET PARK ZOO CHAPTER AAZK

**Return this form with fee to: Burnet Park Zoo AAZK Chapter,
Conference '89, 500 Burnet Park Drive, Syracuse, NY 13204.**

Conference Proceedings Order Form

As previously announced, the proceedings from the 1989 AAZK National Conference in Syracuse, NY will not be published in a special December issue of *Animal Keepers' Forum*. This was a cost-cutting measure necessary to keep the Asociatioon on sound financial footing. The Proceedings will, however, be published as a separate publication and may be purchased from AAZK Administrative Offices.

If you will not be attending the Syracuse Conference, but wish to obtain a copy of the proceedings, please fill out the order form below and send to: '89 Proceedings/AAZK, 635 Gage Blvd., Topeka, KS 66606. Costs per copy, which include postage by surface rates and handling fee, is as follows:

For AAZK Members:

- \$5.00 if ordered prior to 10 October 1989.
- \$7.00 if ordered after 10 October 1989.

For Non-Members:

- \$10.00 if ordered prior to 10 October 1989.
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NOTE: Orders from outside the U.S. and Canada need to add \$2.50 for postage.

Only a limited number of copies will be ordered, so if you would like to have one, we urge you to place your order NOW. Those individuals attending the Syracuse Conference will be able to reserve their copy at the time of Registration Check-in. Anticipated publication in mid to late November.

DEADLINE FOR ALL ORDERS IS 10 OCTOBER 1989

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CONTINENTAL

Lesser Panda (Greater Raccoon?) Management at Washington Park Zoo

By
Ted Daehnke, Feline Keeper
Washington Park Zoo, Portland, OR

On 27 June 1988 a Red Panda (*Ailurus fulgens*) was born at the Washington Park Zoo, Portland, OR. This success was the result of continued development of our panda management plus a certain amount of luck. The following account describes our exhibit and management practices and the events leading up to this birth.

Our exhibit is 13 meters long, 4 meters deep and 3 meters high. The front is mesh and is 3.2 meters from the public. The top is also mesh. The back and ends are concrete with a small amount of rock work. The exhibit faces NNE and has two large planted areas at the west end and center. The east end contains a smaller planted area and a pool. The two large planters contain two magnolias, a vine maple and a pine which reach the top of the exhibit. All three planters contain a variety of shrubby plants and four large dead trees to provide resting areas and climbing structures. Fiberglass panels over the central planted area provide shelter from the rain. A dead tree in this area is the most common resting site for the pandas.

The exhibit contains four nestboxes. Two are .79 meter by .56 meter boxes extending into the holding areas. The third is a domed fiberglass structure .84 meters in diameter located in the center planter. The last is a cedar log 1.4 meters long with a .3 meter diameter hollow slightly enlarged at the back. The two holding areas for pandas are within the feline building with access from the back of the exhibit. These holding cages are 2.4 meters by 2.1 meters by 2.5 meters high with solid walls and a mesh ceiling.

The major component of our panda management is the ability to monitor and control daily food intake for each individual in the collection. The pandas are brought in to separate holding areas each morning and afternoon for the gruel portion of their diet. This allows us to limit food consumption in an individual whose appetite would otherwise lead to obesity. We can also rapidly detect any change in an individual's appetite. An earlier policy of offering food in the exhibit led to one individual becoming obese while another was seriously underweight. In addition to the gruel, fresh bamboo is placed in the exhibit each afternoon in sufficient quantities to last until the morning feeding.

Portland exhibited red pandas from 1980 to 1988 without any breeding success. In part, this could be explained by a lack of compatibility within our pairs. Our last unsuccessful pair consisted of a two-year-old male and a ten-year-old female. This age difference was suspected of contributing to lack of breeding and in 1988 the older female was exchanged for an animal equal in age to our male.

On 11 January 1988 the new female was moved from quarantine to the panda exhibit. She was kept in holding until 27 January with visual access to the male when he was brought in for feeding twice a day. In addition, on the 11th and the 14th, the male was held in overnight to further the introduction process. The female was kept in to familiarize her with the holding area and to stabilize her gruel consumption. While in quarantine her gruel consumption had declined, but by the 27th it was back to acceptable levels and it was decided to give her temporary access to the exhibit. On the 27th and 31st of January and 1 February the female was in the exhibit by herself from 1000 hrs. until 1500 hrs.

On 2 February a roving keeper working our area noticed the female spending time at the introduction screen and making soft chirping sounds during the AM feeding. Having worked with breeding pandas at another zoo, he recognized this pattern as receptive behavior and notified the other keepers in the area. After a brief discussion it was decided to cut short the introduction process and put the animals together immediately rather than

Lesser Panda (Greater Raccoon?) Management, *Continued*

risk missing the very short receptive portion of a female red panda's cycle. The keepers working the panda in quarantine felt that she had cycled while in their care and we decided not to risk missing another cycle.

When the pair was released into the exhibit there was considerable marking behavior and the male closely followed the female around the exhibit. Mounting attempts began shortly after the animals entered the exhibit. The first attempts appeared clumsy and unsuccessful, but later breeding appeared successful with intromission. Breeding continued throughout 2 February and less frequently on the 3rd. No breeding was observed after 3 February. Since no aggression occurred the pair continued to be exhibited together from 2 February on.

On 17 April the female was observed growling at the male and on the 20th the pandas were given access to the nestboxes which had been closed since the previous breeding season. On 30 May the female was observed chasing the male and started spending more time in the nestboxes and carrying nesting material. The female's food consumption was erratic through the last half of June and on 28 June she refused to leave the nest log for 24 hours. On 29 June she spent most of the afternoon dragging nesting material into the nest log. At 1500 hrs. on 1 July the female was observed eating bamboo on exhibit, but had not come into holding for gruel since the PM feeding on 27 June. It was suspected she had given birth on 28 June, 145 days after the last observed breeding.

From 1 July until 4 July the male was held in from 0730 hrs. to 1100 hrs. and from 1400 hrs. to 1600 hrs. During these times the female was given access to gruel in her holding, but refused to leave the nest log during daylight hours. After 4 July the male was held in overnight and the female had access to her gruel all night. This routine was immediately successful and the female resumed normal gruel consumption. On 10 July she moved a single cub to the nestbox adjacent to the male's holding for two days before moving it back to the log.

By mid-July the male was reluctant to come in for the PM feeding and often had to be forced in. This was possibly a reaction to being held in overnight. On 20 July the female entered holding during our morning routine and was closed in briefly while we confirmed one live cub in the nest log. Perhaps as a result of our activity the female spent 2 1/2 hours moving the cub and nesting material between the log and the nestbox adjacent to the male's holding. She finally settled down in the nestbox, but moved back to the log the next night.

A heat wave struck on 26 July with daytime highs near 90° F and lows near 70° F. The female spent a lot of time carrying the pup around during this hot weather. Temperatures within the nest log probably exceeded normal limits for this species (70° F), but cooler sites within the exhibit seemed to appear less secure to the female. On 29 July the cub was examined and found to have a patch of matted fur under its neck, possibly a result of excessive carrying by the female. A second check of the cub on 30 July showed signs of abrasion under the neck and the cub was given antibiotics. At this time the cub was approximately 33 days old and weighed 478 grams. The temperature dropped after 30 July and a check of the cub on 3 August showed no weight gain, but the neck seemed to be healing well. The weather warmed up again on 3 August and the female resumed carrying the cub around the exhibit. An examination on the 4th showed that its neck wounds had worsened and the decision was made to move it to the nursery for hand-rearing. The cub was given 10 to 15cc of a 5% glucose solution every 4 hours for the first 24 hours it was in the nursery. It also received antibiotics from 4 August through 8 August. When it entered the nursery the cub weighed 470 grams and by 7 August it weighed 491 grams. Weight at two-week intervals was: (21 August) 688 grams, (4 September) 954 grams, (18 September) 1309 grams, and (2 October) 1495 grams. On 19 October the cub was taken to National Zoo to be socialized with the red panda cubs that they were hand-raising.

On 8 August the female was more aggressive than normal towards the male so she was held in overnight for two days. By 10 August both pandas were back to normal routine.

Discussion

Our experience with this birth pointed out two problems. The first was presented by the male. Since red pandas are not social in the wild the ideal solution would be to separate the pair before the female gives birth. This was ruled out in our case because off-exhibit holding for the male was viewed as inadequate. There was also concern that the female alone would not provide a very good exhibit, particularly since she could be expected to spend much of her time in the nestbox after giving birth. At the other extreme, we could treat them as social animals and keep the pair together with free access to what we felt was enough food for both. This is accepted practice in many successful red panda programs, but would deprive us of the ability to monitor individual food consumption at a critical time for the female and at a time of increased aggressive interaction and likely disruption of feeding behavior. It is worth noting that Portland was not alone in hand-raising a baby red panda last year. It may be that accepted practices could still use some improvement. The compromise of holding the male off exhibit at night is not ideal, but appears workable.

The second problem concerns having to pull the kit because of excessive carrying by the female. This appeared to have been triggered by high temperatures in the nestbox. We have tried to reduce this problem by adding a third nestbox to the exhibit and engineering passive cooling of these three nests. A concrete pad forms the floor of each of these nests and extends .6 meters into the ground. Since prolonged hot spells are not common in Portland, this passive system should be more than adequate to get us past any emergencies.

We would like to hear from others who are breeding red pandas, particularly in regard to feeding routines, nestboxes and treatment of the male while cubs are being raised. There have been some observations of breeding season behavior this spring and we are hoping for another successful season.

Chapter News



The Association is pleased to welcome two new chapters this month. They are:

Central Park Zoo Chapter, 830 5th Ave., New York, NY 10021; and the **Beardsley Zoo Chapter**, Beardsley Zoological Gardens, Noble Ave., Bridgeport, CT 06610.

Officers for the Central Park Chapter are:

President.....Thomas Probst
Vice Pres.....James Mejeur
Secretary.....Vivian Simons
Treasurer.....Ira Goldman
Chapter Liaison...Kelly Gruninger

Officers for the Beardsley Zoo Chapter are:

President.....Linda Oltra
Vice Pres.....Robert Tomas
Secretary.....Jeanne Yuckienuz
Treasurer.....George Criscione
Asst. Sec'y.....Arlene Domkowski

Flinthills Chapter AAZK

The Flinthills Chapter, located at the Sunset Zoo in Manhattan, KS, announces the following new Chapter officers:

President.....Kale Bedinghaus
Vice Pres.....Ron Schulze
Treasurer.....Jenny Boyce
Secretary.....Tim Marshall
Chapter Liaison.....Grant Huffman

--Grant Huffman, Chapter Liaison

Central Arizona Chapter

The Central Arizona Chapter is supporting the first Arizona Wolf Symposium to be held 23-24 March 1990 at Arizona State University. The symposium is being sponsored by P.A.W.S., an organization that is interested in preserving Arizona's wolves, particularly the Mexican Wolf (*Canis lupus baileyi*). It is also being co-sponsored by the Arizona chapter of The Wildlife Society. The symposium will

Chapter News. *Continued*

explore a wide variety of topics about wolves including status in captivity, range management, education, and recovery programs for the Red Wolf, Rocky Mountain Wolf, and the Mexican Wolf. Guest speakers will include Roy McBride, David E. Brown, Warren Parker, Hank Fischer, Allan Savory, Steven Fritts, Peter Siminski, and David Mech.

A call for papers is being issued for those interested in presenting a paper during the 23 March evening session. Preliminary abstracts are due by 15 October, 1989 and full texts should be submitted no later than 15 February, 1990 for publication. Notification of acceptance will be provided by 15 December, 1989. Authors are encouraged to provide detailed abstracts on topics limited to research, scientific studies, case histories, or similar topics related to wolves, preferably the Mexican Gray Wolf.

For further information contact: Bobbie Holaday, 1413 East Dobbins Road, Phoenix, AZ 85040 or Mike Seidman, Phoenix Zoo, P.O. Box 52191, Phoenix, AZ 85072.

Newly elected officers of the Central Arizona Chapter are:

President.....Rusty Harr
Vice Pres.....Jim Murphy
Secretary.....Becky Nankivell
Treasurer.....Denise Schultz
Chapter Liaison...Anita Schanberger

--Anita Schanberger
Chapter Liaison

Puget Sound Chapter

It's been a busy spring and summer for the Puget Sound Chapter. In March of this year, Harmony Frazier-Taylor, Senior Veterinary Technician, agreed to take on the Infant Development Notebook Project. At the May meeting, the Chapter voted to purchase a computer and printer which will enable her to reformat and refine the data collection form. Harmony is looking forward to having a workshop at the National Conference in Syracuse this fall.

On 25 May, 1989 the Chapter and the University of Washington Primate Center co-sponsored a slide lecture given by Dr. Thomas Defler. Dr. Defler detailed his work studying the Woolly Monkey (*Lagothrix*) in the Amazon rainforest. The talk was very well attended and donations were given to Dr. Defler to help continue his very important work.

On 21 June, 1989 the Chapter hosted the annual "Summer Solstice Party". This is a regional event, rotated among the zoos of the Pacific Northwest, which allows keepers from different facilities to get together and socialize. Well over 100 zoo people enjoyed barbequed salmon, potatoes and salad as well as some well-chilled liquid refreshments. After a great meal, participants enjoyed games of volleyball, tours of the new Asian Elephant Forest exhibit and a very unusual and challenging obstacle relay race.

Because much of our food was donated by local companies, we were able to raise well over \$450.00 which has been donated to the Ecosystem Survival Plan Adopt-an-Acre Program to buy acreage in the Guanacaste National Park in Costa Rica.

The chapter is going to be quite busy this fall with plans to participate in the zoo's "Wildlife Weekend" event and the Chapter's major fundraiser, "Zoo Bowl". If anyone would like information on doing their own zoo bowl fundraiser, we have a "how to" packet available upon request. Write to me, c/o Woodland Park Zoological Gardens, 5500 Phinney Ave. North, Seattle, WA 98103.

--Patrick Maluy, Chapter Liaison

Topeka Chapter AAZK

Newly elected officers for the Chapter are:

President.....Gretchen Ziegler
Vice Pres.....Kayla Grams
Secretary.....Mike Yznaga
Treasurer.....Cathy Harrison
Chapter Liaison.....Ron Ringer

Chapter News. *Continued*

The Topeka Chapter of AAZK is in the midst of a come-back. We have a new staff of officers who are leading the way to getting our Chapter back on its feet.

Our first major project is to renovate one of our older outside units. The unit will house 0.2 Binturong. Our hopes are to combine live plants, natural substrates and a combination of different furnitures to give the Binturong a more naturalistic environment. The funds for this project are being raised through T-shirt and bake sales.

Future projects will include Elephant Conservation, putting up bluebird boxes at our Conservation & Propagation Center, and getting members to pay their pop machine bills.

--Ron Ringer, Chapter Liaison

San Diego Chapter AAZK

In August, the Chapter meeting included a program by Dr. Kent Osburn of the Pathology Dept. Entitled "Death in the Zoological Garden: A Wetlab of Recent Clues and Mysteries Investigated by the Pathology Department". The program focused on the work done by this department in determining the causes of death within the collection and how knowledge learned from these findings can be utilized to enhance management techniques for present and future collection specimens.

Members were encouraged to bring their favorite body parts as appetizers - i.e. chicken legs, lady fingers, finger sandwiches, etc.!

This month the Chapter will be meeting at Sea World, where they claim hospitality is never outdone!

Chapter members Red Thomas, Celeste Northrop and the Chapter Board are discussing a proposal with the Zoo General Manager Art Risser for a joint venture between the Zoological Society of San Diego and the San Diego AAZK Chapter to install a collection box at the black rhino exhibit. The proceeds

collected would be split jointly between the two organizations and the money would be targeted to rhino conservation efforts.

--The Keeper, newsletter of the San Diego Chapter, Aug/Sept.

Greater San Francisco Bay Area AAZK Chapter

The Chapter's ecosystem Survival Plan continues to receive national and even international attention. An item on ESP can be found in the July-August issue of *International Wildlife* (p. 28) and in an Australian publication entitled *Simply Living*.

Chapter President Norman Gershenz writes that as of 27 July \$16,245.54 had been raised toward the purchase of habitat in Costa Rica's tropical dry rainforest. This equates to 135 acres now set aside as protected national park land forever!

The Chapter also received a letter from Annette Lantos, Executive Assistant to U.S. Rep. Tom Lantos (CA) commending the Chapter on their efforts for rainforest preservation and their Ecosystem Survival Plan. The letter reads as follows:

"Dear Mr. Gershenz:

I have recently been made aware of the Ecosystem Survival Plan initiated by the Greater San Francisco Bay Area Chapter of the American Association of Zoo Keepers.

As founder and Chairperson of the Congressional Spouses' Caucus on Environment and Animal Protection, I would like to commend you and members of your chapter for your efforts to halt the destruction of habitat and protect the delicate balance on our planet.

It is my fond hope that work such as yours will inspire others to similar action and eventually lead to a world wide awareness of the dangers that face us if current destructive practices persist."

--GSFBA Chapter Correspondence

Chapter News, Continued

St. Louis AAZK Chapter

The St. Louis Chapter held two events in the early part of the summer to aid rhinoceros conservation. On 23 May we hosted Andy Lodge, Chairman of the Ngare Sergoi Rhino Support Group. Andy gave two talks, one to the general public and another to zoo employees. Andy's inspiring slide lecture presentation had the audiences buzzing long after the shows ended.

In conjunction with Andy's visit, the St. Louis Chapter sponsored a benefit concert, "Rockin for Rhinos". A local rhythm and blues band, Flim Flam, performed at Off Broadway Lounge. Publicity for the event included a 30-minute interview on a local radio station about the rhinoceros situation which featured keepers Steven Tomey and Rick Smith.

Nearly 150 patrons were on hand to rock for rhinos on 1 June. The concert was a success and over \$400 was raised. Special thanks go to Louise Bradshaw, Alyce Wilkins, Lucy Bailey and Tish Smith for their help with T-shirt sales and admission at the door. Thanks especially to Joe Camarata, owner of the lounge, for his generosity. Between the two events, we raised over \$600 for the Ngare Sergoi Rhino Sanctuary in Kenya and the Black Rhinoceros. A great job was done by all. Thanks again.

In other news, the keeper survey is going well. Lucy Bailey reported that 135 surveys have been returned from 33 institutions. The results are so good that she is in the process of writing an article for AAZK. Thank you to all of those who participated in the survey.....and it's still not too late for those wishing to send in their surveys.

On 26 June, our Chapter got together with other zoo employees and watched the Cardinals whip the Chicago Cubs 2-0! Our group was large enough that AAZK was flashed on the big scoreboard in between innings.

Our noon seminar series continues to be popular, featuring keepers and zoo staff presentations on various topics. We are

presently working on designing a Chapter logo, planning a jazz benefit concert for the winter and coordinating a fund-raising rummage sale.

--Steve Tomey and
Rick Smith, Chapter Liaison

Cheyenne Mountain AAZK Chapter

Scott Temple has resigned as treasurer and Ron Klempner has taken his place.

Our second annual garage sale was held 8-9 July and was another success. We raised \$250.00 which will be used toward our resource center and exhibit renovations.

--Nanette Bragin, Chapter Liaison

Rocky Mountain AAZK Chapter

This Chapter, located at the Denver Zoo, has reactivated and announces the following new slate of officers:

President.....Pete Hawthorne
Past Pres.....Dennis Roling
Vice President.....John Pugh
Past VP.....Dottie Kreider
Sec/Treas.....Marlene Kump
Past Sec...John Turner
Past Treas.....Britt Thompson (now at
Little Rock Zoo)
Corres. Sec.....Suzanne Chacon who
replaces Ann Rademacher (now
at Little Rock Zoo)

The Chapter encourages all those in the area to attend their meetings which are held the second week of each month, alternating between Tuesdays and Thursdays. The next meeting will be Tuesday, 12 Sept. and the October meeting will be held on Thursday, 12 Oct. Meeting time is 5:15 p.m. at the westgate of the Denver Zoo. If you are in the area, drop by.

--Suzanne Chacon, Corres. Sec'y

Bronx Zoo Chapter AAZK

In August the Bronx Zoo Chapter held its annual barbecue. Wild Animal Keeper, Mammals, Alison Blatz planned the "ZOOLYMPICS" which were a lot of fun. Lee Schoen, Wild

Chapter News. *Continued*

Animal Keeper, Birds, provided the music. The silent auction had a wonderful array of items donated by the Souvenir Barn, Friends of the Zoo, the Photo Dept., Horticulture and the Library. Senior keeper Frank Leonard continued his tasty tradition of preparing the food. The money raised will send delegates to the AAZK Conference in Syracuse in October.

This month, our Conservation Biologist, Dr. Michael Hutchins, gave an interesting presentation on his trip to Patagonia to census penguins. Working with field biologist Dr. Dee Boersman, who has been involved in this project for 10 years, he, Dee and several biologists banded the chicks, monitoring their development and studied the breeding biology of the adults. Mike's slides were spectacular and his talk was well received.

--Wendy Worth, Chapter Liaison

North Carolina Chapter AAZK

The months of April, May and June were active ones for the North Carolina Chapter. On 24 April, two members gave a talk to approximately 250 junior high school students about the zookeeping profession. The students were participating in a program called the Junior Training Partnership Act and which was held at the North Carolina Zoological Park. Also in April, the Chapter assisted the North Carolina Zoological Society by recruiting volunteers to help with its annual "Zoo Run" that took place on 29 April.

A program was given by Dr. Bill Torgerson, veterinarian at the North Carolina Zoological Park at the May meeting. He talked about animal restraint techniques and methods and included slides in his very informative presentation. On 14 May, the Chapter participated in Greensboro's annual "Park Scene" by setting up a booth at the Natural Science Center in Greensboro. The booth included AAZK information and other "tools of the trade" on zookeeping.

At our June meeting, the Chapter decided to make a \$200 donation to local wildlife rehabilitators to help with their invaluable efforts. In response to AAZPA's request for donated auction items for their national meeting, the Chapter decided to donate two T-shirts with the North Carolina Chapter logo. Also in June, payment was made for our "cruise giveaway" and a check for \$539.81 was sent to AAZK Administrative Offices for the Regional Coordinator System.

--Lucy Segerson, President

CHAPTER REMINDER

All Chapters are reminded that their Statement of Net Worth was due at AAZK Administrative Offices on 1 August 1989. To date we have received only about 10 out of our 60-plus chapters. It is vital that every Chapter return this form as AAZK must have them to insure that our financial records are in order for the report submitted to the Internal Revenue Service. This is NOT an option - it is required. We appreciate your prompt response to this matter. If you have any questions, please contact Barbara Manspeaker at 913) 272-5821 Ext. 31, M-F from 10 a.m. to 2 p.m. (CT)



Lar Gibbon Duets

Reprint of

Environmental Enrichment Report No. 1
Universities Federation for Animal Welfare
8 Hamilton Close, South Mimms, Potters Bar, Herts EN6 3QD

Prepared By

David Shepherdson, Mick Carman and Neil Bemment
Zoological Society of London, Regent's Park, London, England

In their southeast Asian rainforest habitat, gibbons are monogamous, live in family groups, and most species declare territorial ownership by singing. This usually involves an adult pair, although the Kloss and possibly the Moloch gibbon do not sing duets (1). The Lar gibbon's (*Hylobates lar*) duet lasts for about fifteen minutes and may occur from twice a day to once every five days (2,3). In addition to its territorial function, a duet may also be important in formation and maintenance of the pair bond. Singing may provide a source of pleasurable stimulation and thus act as an incentive for breeding pairs to remain together and to sing in response to other pairs (4). Given the opportunity gibbons will choose to listen to songs of their own species (5).

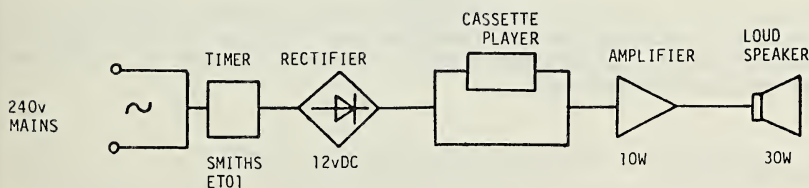
It seemed reasonable therefore to provide Lar gibbons at London Zoo with an opportunity to hear another pair calling as it was likely that the consequent incentive to respond would be a positive enrichment to their environment.

The programme

Some examples of the gibbon vocalizations were obtained from a recording (6) and transferred onto an endless 60 second cassette. The song contained several sequences of alternating male and female calls of increasing intensity climaxing in a long screeching call from the female, the great call (2), and a warbling reply from the male.

The broadcasting system consisted of a cassette tape recorder and amplifier connected to a 30 watt plastic, all-weather, horn loudspeaker. This equipment was connected to the mains through a transformer and controlled by an electronic timer, See Figure 1 below. The loudspeaker was situated about 10 meters high and 50 meters from the enclosure and the cost of the system was about £108.

FIGURE 1

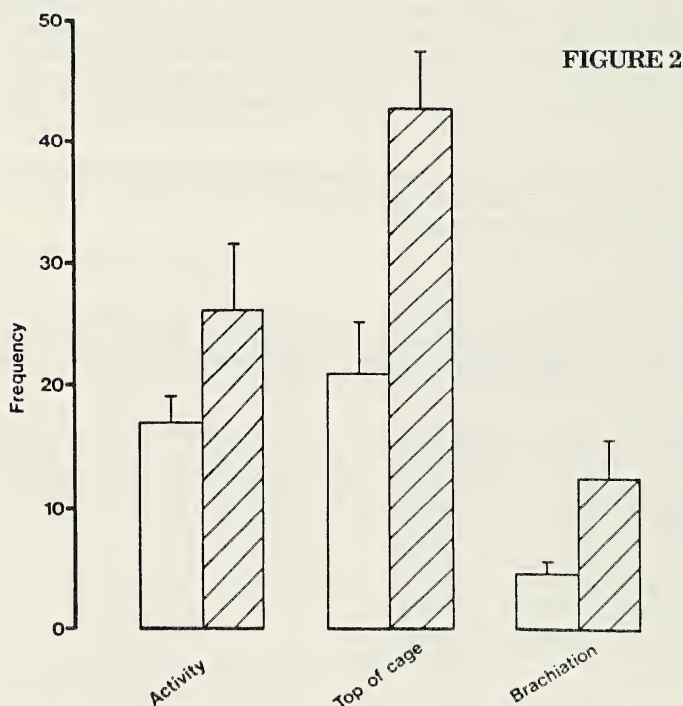


Lar Gibbon Duets, Continued

The tape was played twice a day for 14 minutes at 100 and 1600 hrs. and the timer was programmed so that there were several pauses of one to three minutes; this approximated to Lar gibbon duet sequences in the wild. Endless cassettes are very delicate and a more robust solution might be to use an ordinary cassette modified to play for only fifteen minutes with an auto-reverse tape recorder.

Results

For both animals, data on cage position, behavior and activity were collected for a period of one hour before and one hour after the usual playback time. There was significantly more activity, brachiation and time spent at the top of the cage after playback than before, See Figure 2. In addition, a comparison over the same time period between days on which there was playback and those on which there was not (ten sessions of each condition) revealed significantly more singing after playback: Chi-Square = 6.7, $p < 0.009$. The system has now been in almost constant operation for over nine months and the gibbons are still responding to the playback.



Combined male and female scores (+ SEM) for three measures of gibbon activity and behaviour in the thirty minutes before (open bars) and thirty minutes after (hashed bars) commencement of song playback. Data averaged over ten days. $P < 0.001$ for all behaviours (Mann-Whitney test).

Conclusion

Playing duets to captive Lar gibbons resulted in increased species-typical activity and vocalization. Despite the artificial nature of the recording and the regular timing of its appearance there is no evidence of habituation. Its use to enrich the environment of the gibbons and as part of an educational display should therefore be encouraged.

Lar Gibbon Duets. *Continued*

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The New York Aquarium Opens Discovery Cove

By
*Martha Hiatt-Saif, Senior Trainer
New York Aquarium, New York, NY*

How do fish breathe? How do they swim, see, eat, reproduce? Commonly asked questions such as these inspired the George D. Ruggieri Discovery Cove, the New York Aquarium's \$8.5 million addition to its 14-acre facility. Discovery Cove, which opened on 6 July and is named for the last Aquarium Director, Dr. George D. Ruggieri S.J., is designed to serve as a comprehensive introduction to the aquatic world, emphasizing coastal ecosystems, adaptation and the relationship of people to the sea.

Visitors are greeted by an authentic New England lobster boat floating in its own dock. They cross a wharf to enter the building and encounter three separate ecosystems, completing the transition from land to sea. A sandy beach absorbs the roll of a breaker generated along a 45-foot wall. Next they are waist deep in a salt marsh, an illusion created by graphics and the world's largest indoor collection of salt marsh grasses. Transporting them onto a North Atlantic Coast, a 400-gallon crash of waves spills across the visitors (protected by an acrylic panel) and onto a granite shore.

With the importance of the habitats displayed, a closer look is then given to survival strategies of animals and how each adapts to its environment. Adaptation alcoves tell these stories with interactive displays and an ingenious mix of aquarium tanks, presenting living examples, video monitors and graphics viewed within the tanks themselves. Wall illustrations relate these concepts to familiar images. The aquarium's commitment to conservation is integrated throughout these displays to help promote an understanding of today's many environmental issues.

Discovery Cove's thematic approach presents a unique challenge to keepers. Tropical and freshwater tanks sit side by side calling for versatility in husbandry. Effective display was given priority over ease in access, so daily care requires greater time and effort. (Cleaning the 12,000 gallon coral reef tank can be accomplished only by a diver). Reproductive displays will call for a constant supply of young fish so breeding, already a major concern, will be given even greater emphasis. There will also be increased contact with the public. Keepers will be available to answer questions about the animals as well as their roles in caring for them.

Keepers played a significant part in developing and opening the building. They worked side by side with contractors, acclimated the new additions to the collection and still performed their duties throughout the rest of the aquarium. What seemed an impossible workload was effectively carried out and now they enjoy a special pride in their contribution.

The George D. Ruggieri S.J. Discovery Cove is a diverse facility with many stories to tell and many devices with which to illustrate them. Hopefully its message will bring the public's understanding of aquatic life to a higher level, allowing more informed choices for difficult decisions affecting the natural world.



Leaping For Their Lunch...a study of food presentation methods to decrease stereotypic behaviors

Feeding time at Howletts Zoo Park can be exciting, not just for the public, but for the animals as well. Clare Knowler, a student at Glasgow University Veterinary School with a Vacation Scholarship from Universities Federation for Animal Welfare (UFAW), found that hanging food from the top of a cage and hiding it under logs, helped both to reduce the stereotyped behaviors of two captive Leopard cats (*Felis bengalensis*) and increase the time spent in appropriate activities such as grooming. Clare's initial observations found that although both cats appeared in good physical condition, a large amount of time was spent by Lhasa (0.1) lying and sleeping and Bandar (1.0) pacing stereotypically and running in circles. She also noted that neither cat groomed very much nor showed much interest in exploring its environment.

In an attempt to enrich the cats' environment and reduce their stereotyped behaviors, Clare changed the way in which their food was presented. Instead of being placed in a pile on alternate days on the ground of the enclosure, Lhasa and Bandar's food (dead day-old chicks and rats, chicken pieces and rabbit halves) were presented each morning and suspended from the roof, hidden in and under various materials and generally made much less accessible. Food hung from the roof on twine encouraged the cats to display such hunting strategies as leaping and swiping with their paws, or pulling the twine suspending the food towards them from above. Climbing skills were improved by placing food on the netting on top of the enclosure. Progressively more difficult hiding places were found for the cats as they became more adept at finding the food. Placing food under a plastic flower-pot encouraged Lhasa to sniff it out, whilst hiding it under a piece of wood resulted in swiping and 'fishing' behaviors where she used both paws and claws.

As a result of enriching the cats' environment, Lhasa became far more active and the stereotyped pacing shown by Bandar disappeared altogether. Time spent grooming and eating increased, as did sniffing for food, a behavior which had not occurred previously. Social relationships also seemed to improve and the cats began to sleep together on branches and platforms during the day, and in the same den at night.

The cats developed and displayed their natural hunting skills to such an extent that their feeding times became an acrobatic display which fascinated and educated the public.

Recommendations for further study which have emerged from Clare's work include: the need for a long-term study to evaluate the effectiveness of such environmental enrichments over time; investigation of the effect which a pool for swimming would have on the cats' behavior; evaluation of these environmental enrichment strategies with other species of cats and a comparison of captive cat behavior with that shown by wild members of the same species.

Dr. David Shepherdson (UFAW/ZSL Research Fellow) who is currently studying the environmental enrichment of captive animals at London Zoo, commented that "This study provides more evidence to suggest that novel (not necessarily expensive) ways of presenting food can reduce pacing behavior".

UFAW, an educational, scientific charity, aims to improve the welfare of all animals through funding of accurate, objective research. This study on Leopard Cats was one of the several Vacation Scholarships offered by UFAW to UK undergraduates in the agricultural, biological, medical, veterinary, zoological or human sciences. Further details of scholarships may be obtained from UFAW, 8 Hamilton Close, South Mimms, Potters Bar, Herts EN6 3QD, Great Britain. Contact Person: Helen Dealy.



CHAPTER AND REGIONAL AFFAIRS COMMITTEE

Director of Chapter and Regional Affairs Committee - Bill Whittaker, Toledo Zoo, 2700 Broadway, Toledo, OH 43609. (419) 385-5721 Ext. 251. Home address: 10740 Obee Rd., Whitehouse, OH 43571. (419) 877-0681 [h].

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VACANCY for the States of TX, LA (South Plains)

Joe Rindler, Columbus Zoo, 9990 Riverside Dr., Box 400, Columbus, OH 43065
for the States of OH and KY (Great Lakes Region)

Colleen Kinzley, Brookfield Zoo, 3300 Golf Road, Brookfield, IL 60513
for the States of IL and WI (Great Lakes Region)

Dale Leeds, Toledo Zoo, 2700 Broadway, Toledo, OH 43609
for the States of MI and IN (Great Lakes Region)

Todd Cleveland, Roger Williams Park Zoo, Providence, RI 02905 AND

Mark Hofling, Bronx Zoo, 185th St. & Southern Blvd., Bronx, NY 10460 (212) 220-7115 (w)
(212) 543-2753 (h)

for the States of ME, NY, VT, NH, MA, CT, and RI (North Atlantic Coast)

Jon Brangan, Virginia Zoological Park, 3500 Granby St., Norfolk, VA 23504 (804) 441-2374 [w]
(804) 480-2606 [h]

for the States of PA, NJ, DE, MD, VA, WVA, and D.C. (Mid-Atlantic Coast)

Michelle Herman, Jackson Zoological Park, 2918 W. Capitol St., Jackson, MS 39209
for the States of TN and MS (South Atlantic Coast)

Fred Alvey, Zoo Atlanta, 800 Cherokee Ave. S.E., Atlanta, GA 30315
for the States of GA and AL (South Atlantic Coast)

VACANCY for the States of NC and SC (South Atlantic Coast)

Betty Grogan, Jacksonville Zoological Park, P.O. Box 26767, Jacksonville, FL 332218 AND
Vicki Bohnert, 3515 Cobblewood Ct. #17, Winter Park, FL 32792 (407) 678-0879 [h]

for the State of Florida

VACANCY for the State of Alaska

Dan Vitiello, Honolulu AAZK Chapter, Honolulu Zoo, 151 Kapahulu Ave., Honolulu, HI 96815
for the State of Hawaii

Terry Male, Metro Toronto Zoo, Box 280, West Hill, Ontario, Canada M1E 4R5
for the Province of Ontario, Canada

Bob Debets, Assiniboine Park Zoo, 2355 Corydon Ave., Winnipeg, Manitoba, Canada R3P 0R5
for the Provinces of Manitoba and Saskatchewan, Canada & [204] 489-3893 [h]
States of ND, SD and Northern MN

Dean Treichel, Valley Zoo, Box 3259, Edmonton, Alberta, Canada T5J 2R7

for the Provinces of Alberta and British Columbia, Canada (403) 483-5525 [w]

☆☆☆ **First Time Offer** ☆☆☆

AAZK Magnetic Keeper Safety Signs
Available from the Flint Hills Chapter

These unique, black (keeper in area) and red (animal in area) on white magnetic signs are a must in any safety conscious zoo. They are 6" x 8" and can be flipped upsidedown to warn of a keeper in an animal area.



AAZK Magnetic Keeper Safety Sign Order Form

Please send _____ Safety Signs at \$10.85 each \$ _____

\$1.00 P & H per sign \$ _____

Total Enclosed \$ _____

Name _____

Address _____

City _____ State _____ Zip _____

Please make checks payable to "Flint Hills AAZK Chapter" and send to:

AAZK Magnetic Signs
Sunset Zoo
11th & Poyntz
Manhattan, KS 66502

Please allow 4-6 weeks for delivery.

*Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/***AKF***, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in or FAX listings of positions which become available close to deadline are accepted. Our telephone number is (913) 272-5821, Ext. 31 and our FAX number is 913-272-2539.*

CURATOR OF BIRDS...requires Bachelor's degree in Biology, Wildlife Management, or related field and three (3) years' aviculture experience at a supervisory or management level. Responsible for a bird collection of almost 1,000 specimens. Would be the Cleveland Metroparks Zoo's first Bird Curator and have an opportunity for involvement in improving our present program and developing a long-range plan for the bird collection. For information, call Steve Taylor, Director, Cleveland Metroparks Zoo, (216) 661-6500. Send letter of interest and complete resume to: Personnel Department, Cleveland Metroparks System, 4101 Fulton Parkway, Cleveland, OH 44144 (216) 351-6300. **Deadline is 30 September 1989.**

ASSISTANT CURATOR OF BIRDS...opening at Philadelphia Zoo. Responsibilities include supervising and coordinating the work of keepers assigned to care for exotic birds, exhibits and physical facilities. Also responsible for developing/implementing training, safety and security programs; recordkeeping and preparing periodic reports. Supervises bird house operations and keeper staff in absence of curator. Qualifications include a minimum of five (5) years' experience as an animal or bird keeper and two (2) years' supervisory experience in a recognized zoological park. Prefer college degree in biology or related field, and experience in, and/or knowledge of, the care of exotic birds. Competitive salary and benefits. Send letter, resume and three (3) written professional references **by 1 November 1989** to: Personnel Director, Zoological Society of Philadelphia, 34th St. & Girard Ave., Philadelphia, PA 19014.

ZOOKEEPER...requires Associate's degree in an animal-related field plus two (2) years' experience as a zookeeper, or a Bachelor's degree in biology or a related field. Responsible for daily care of domestic and exotic animals, exhibit and grounds maintenance, and operation of miniature train. Salary \$5.00-\$5.90/hr. Send letter and resume **by 30 September 1989** to: Mike Borders, Director, Scovill Children's Zoo, 71 South Country Club Road, Deatur, IL 62521.

ANIMAL CARE TECHNICIAN...assist veterinarian in surgical procedures, lab work, record keeping and maintenance of hospital and quarantine area collection. Eligibility for New York State license required. Assist Curator in management/care of overall zoo collection. Salary commensurate with experience, plus benefits. Send resume and references to: Tim French, Curator, Ross Park Zoo, 185 Park Avenue, Binghamton, NY 18903.

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Watch For These Programs on The Discovery Channel

Safari Live! Africa Watch

(see article July '89 **AKF** page 234)

Friday, 20 Sept. at 10 p.m. and midnight ET

Saturday, 23 Sept. at 10 p.m. ET

Sunday, 24 Sept. at 10 p.m. ET

IVORY WARS

(see article June '89 **AKF** page 189)

Tuesday, 26 Sept. at 9 p.m. ET

AAZK Membership Application

Name _____ check here if renewal []

Address _____

City _____ State/Province _____ Zip _____

☐ **\$30.00 Professional**
Full-time Keepers

☐ **\$25.00 Affiliate**
Other staff & volunteers

☐ **\$25.00 Associate**
*Those not connected with
an animal facility*

☐ **\$30.00 International**
*All members outside U.S. & Canada
regardless of category*

☐ **\$20.00 Library**
Library subscription only

☐ **\$50.00 or more Contributing**
Organizations & individuals

Zoo Affiliation (if any) _____

Zoo Address _____

Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), made payable to American Association of Zoo Keepers, Inc., to : AAZK Administrative Offices, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed and double-spaced. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size **no greater than** 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species (as per ISIS) the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to *Animal Keepers' Forum* will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone or FAX contributions of late-breaking news or last-minute insertions are accepted. However, long articles must be sent by U.S. mail. The phone number is (913) 272-5821 Ext. 31. FAX # is 913-272-2539.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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Publication does not indicate endorsement by the Association.

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Animal Keepers' Forum

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October 1989



Dedicated to Professional Animal Care

Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

October 1989
Volume Sixteen
Number Ten

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Barbara Manspeaker, Administrative Secretary

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Marilyn Cole, Metro Toronto Zoo

Zoo/University List

Mike Illig, Washington Park Zoo

Nominations & Elections

Rachel Rogers, Miami Metrozoo

Director of Chapter and Regional Affairs Committee

Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKF.

*This month's cover art features Hogle Zoo's Veterinary Technician/Bear Keeper Bob Dolan with one of a number of polar bear (*Ursus maritimus*) cubs born at that facility. Bob is also the President of the newly formed Utah Chapter AAZK. The artwork was done by Yoshi. Yonetani, an international AAZK member and talented artist who works for the Zoo Design & Education Lab in Kobe, Japan. Last January, the AKF editors had requested that members submit photographs of Keepers working with their animals to be converted into cover art. The subject of each cover art receives the original drawing from Yoshi. in return for some information (brochures, patches, letterhead, or similar items) from their facility. If you have a good, clear photo of a keeper working with their animals, please submit it to the AKF offices. You could be on a upcoming cover of your association's journal! Many thanks, Yoshi, for this fine cover of Bob with the polar bear cub.*

Scoops and Scuttlebutt

Western Regional Call for Papers

The Sacramento Zoo will be hosting the AAZPA Western Regional Conference, 25-27 March, 1990. Panel and paper sessions will include education, horticulture, legislative issues, exhibits, animal husbandry and management, conservation, recovery programs and marketing/development. Those interested in presenting papers may submit a half-page abstract before 30 December 1989 to: Susan Y. Healy, Sacramento Zoo, 3930 West Land Park Drive, Sacramento, CA 95822. For additional information, call (916) 449-5166.

'89 Conference Proceedings Order Reminder

Everyone is reminded that if you wish to have a copy of the proceedings from the 1989 AAZK National Conference in Syracuse, NY, you need to order it NOW. The proceedings will not be published in the December issue of *Animal Keepers' Forum* as has been done in previous years. This is primarily due to the cost. The '89 Proceedings will be published separately and is available for sale. Those delegates attending the conference were offered the opportunity to purchase their copy at the time they registered. Those not attending the conference need to send in the order form (in both Sept. and October issues of AKF), along with appropriate payment in order to secure their copy. Based on pre-publication orders, only a limited number will be printed, so if you want a copy, you need to act quickly. We anticipate publication in late November. See order form in this issue for details.

Chapters Reminded to Send in Statement of Net Worth

In June of this year, all Chapters were sent a request from AAZK Administrative Offices to submit by 1 August, a 1988 Statement of Net Worth. Of our 62 active chapters, we have received only 22 returns to date. It is very important that all Chapters realize that this request was not made just because we here at AO like extra paperwork. It was made because AAZK is legally bound by the Internal Revenue Service to have this information on file. Failure of AAZK to have this required information on file could seriously jeopardize the association's nonprofit tax status. We urge you to respond immediately. It is not a complicated form and if you have questions, feel free to contact Barbara Manspeaker at (913) 272-5821 Ext. 31 weekdays between 10 a.m. and 2 p.m.(CST). Your prompt cooperation is greatly appreciated.



From the President

At the National Conference in Syracuse it gave me great pleasure to announce that the American Association of Zoo Keepers, Inc. has been granted non-profit status (501c(3)) by the Internal Revenue Service. This process took less time than we had anticipated.

This occasion marks the culmination of over six years of work and planning through the terms of four AAZK presidents. I am proud to serve the organization for the realization of this goal and thank all members of the various committees who helped us achieve this long-awaited milestone.

Our change from a not-for-profit to non-profit status means that we can more easily accept large contributions and grants from interested agencies. As non-profit we are a charitable organization and all donors may deduct their contributions from their tax return as allowed by law.

We are also now eligible to apply for a reduction in postal rates which could significantly aid our financial picture.

The change in classification also forces us to be especially aware of our total revenues, particularly where chapters are concerned. We will now be under closer scrutiny by the IRS. All chapters recently received an accounting packet from Bill Whittaker, Regional Coordinator and Chapter Affairs Director. Please be sure to keep accurate records and submit them to Administrative Offices in Topeka as directed by Bill. This is the only method we will have of keeping an accurate accounting of our assets, net worth and financial obligations and it is essential that we have your cooperation. If you have any questions or suggestions regarding these procedures, contact Bill or Barbara Manspeaker.

Chapters should also use this opportunity to become and remain in closer and regular contact with Administrative Offices. By centralizing the fiscal aspect of our Chapter system through a coordinator and our staff in Topeka, our membership will be drawn closer together. This will ultimately result in a greater understanding of our function and goals by all members.

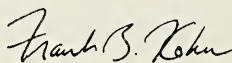
Finally, I would like to add a personal note. As many of you know, our past president, Jean Hromadka, is battling a serious illness. Jean's intense work as president paved the way for the two issues in this month's message.

Jean initiated the actual procedures necessary to change our by-laws. This was fundamental for our change to non-profit status. She also confronted the serious problem of chapters which felt isolated and the fragmentation of the Regional Coordinator and Chapter System. Today our non-profit status is a reality and the Regional Coordinator & Chapter system is rapidly solidifying to become our strongest tool.

Jean wanted me to thank all the chapters and individuals who have extended their personal monetary support and to all the members who have expressed their wishes for her speedy recovery. As many of you have called me to find out about Jean's condition, I also want to thank you for your concern. Jean was a tireless president and she will continue to help AAZK once her illness has been overcome.

Jean is a wonderful and caring person and your continued support will be one of her best allies in her fight to recover.

Thank you all.



Frank B. Kohn
AAZK President

Coming Events

10th Annual Elephant Workshop

November 1-4, 1989

Tulsa, OK

Hosted by the Tulsa Zoo. For further information contact: Larry Nunley, Tulsa Zoo, 5701 E. 36th St. N., Tulsa, OK 74155. Phone (918) 596-2400.

National Symposium on Urban Wildlife

November 11-14, 1990

Cedar Rapids, IA

Organized by the National Institute for Urban Wildlife, this national symposium will be held at the Stouffer Five Seasons Hotel. It will focus the attention of urban planners, landscape architects, developers, city administrators, natural resource biologists, elected officials, and others on the opportunity and need for wildlife and nature conservation in metropolitan America. For further information contact: Dr. Lowell Adams, Symposium Program Chairman, National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, MD 21044 (301) 596-3311.

The Eighth Annual Dr. School Conference on Nutrition of Captive Animals

December 8-9, 1989

Chicago, IL

Co-sponsored by the Lincoln Park Zoological Society and the Chicago Park District, the conference will be held at Lincoln Park Zoological Gardens. Topics will include koala browse production and development of alternative feeds, body composition testing of gorillas, natural vs. synthetic Vitamin E as a supplement, and the impact of secondary plant compounds and toxins on browse use. For registration information, contact Lois Stanley, Lincoln Park Zoological Gardens, 2200 North Canon Drive, Chicago, IL 60614, (312) 294-4666.

1990 AAZPA Regional Conferences

Central Regional - 11-13 March - for more information, contact Kathy Rickard, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 77520 (512) 546-7187.

Western Regional - 25-27 March - For more information, contact Kim Parker, Sacramento Zoo, 3930 West Land Park Dr., Sacramento, CA 95822 (916) 449-5166.

Southern Regional - For more information, contact Mary Leverette, Riverbanks Zoological Park, P.O. Box 1060, Columbia, SC 29202 (803) 779-8717.

Northeastern Regional - For more information, contact Gretchen Ellsworth, National Zoological Park, 3000 Block of Connecticut Ave., N.W., Washington, DC 20008 (202) 673-4666.

Great Lakes Regional - For more information, contact Jim Anderson, Fort Wayne Children's Zoo, 3411 Sherman Blvd., Fort Wayne, IN 46808 (219) 482-4610.

Gorilla Workshop

June 22-25, 1990

Powell, OH

The Columbus Zoo is hosting a three-day Gorilla Workshop with the emphasis on behavioral solutions to behavioral problems in the captive gorilla population. For further information contact: The Great Apes Staff, The Columbus Zoo, Box 400, 9990 Riverside Dr., Powell, OH 43065. (614) 645-3426; FAX (614) 645-3465.

Births & Hatchings



Lincoln Park Zoo...notable births at Lincoln Park Zoo from November 1988 through July 1989 include:

One of the most significant recent births was that of "Ahadi", a 1.0 Black rhinoceros (*Diceros bicornis*). Ahadi ("Promise" in Swahili) is the first black rhino to be born at Lincoln Park. He is the first offspring of both parents, Naivasha, age 7, and Marshall, age 8.

Noelle, 0.1 Baringo giraffe (*Giraffe camelopardalis rothschildi*) was born on Christmas morning. She is the first surviving offspring of Suzy, age 8, and the second for the sire, Gerald, also 8 years old. (above information submitted by Bill Moran, Large Mammal Keeper)

On 22 February, a 0.1 Wanderoo macaque (*Macaca silenus*) was born. This baby was pulled for hand-raising and has since been successfully re-introduced to the group. 4.0 Black lemurs (*Lemur macaco macaco*) were born at the Primate House in March, followed in April by a litter of 0.2.3 Ruffed lemurs (*Lemur variegatus rubra*). Of the five, 0.0.1 DNS, 0.0.2 were left with the mother, and 0.2 were pulled for hand-rearing in the zoo nursery. All four surviving young are doing well. Also this year there has been 1.1 successful births of La Plata three-banded armadillos (*Tolypeutes matacus*). The 0.1 infant represents a second generation birth, as the mother was born here five years ago. The mother of the 1.0 is 20 years old. A third pregnancy, that of a 21-year-old female, ended in stillbirth. Lincoln Park is believed to be one of only two zoos to have a successful breeding program of these animals. (above information submitted by Scott Heinrich, Primate House Keeper)

June 17th was the birthdate of "Mateo", 1.0 California sea lion (*Zalophus californianus*) who was born to Nina, a six-year-old. Mateo is significant for Lincoln Park in that he is our first mother-raised sea lion.

Additional Mammal Dept. births include 0.0.1 Perhensile-tailed porcupine (*Coendou prehensilis*) on 8 July and 3.1 Pacas (*Cuniculus paca*) of which 0.1 DNS.

Recent births in the Hoofstock Dept. included: 1.2 Arabian oryx (*Oryx leucoryx*), 0.1 Addra gazelle (*Gazella dama ruficollis*), 0.1 Bactrian camel (*Camelus bactrianus*), and 0.3 Grant's gazelles (*Gazella granti roosevelti*).

The Reptile House reported the following significant hatchings for 1988: 0.0.1 Pancake tortoise (*Malacochersus tornieri*), and 0.0.3 Radiated tortoises (*Geochelone radiata*). Both of these species represent first-time hatchings at Lincoln Park Zoo.

(Above information compiled by Andy Henderson, Chapter President, and Norah Farnham, Chapter Liaison)



MEMO:

TO: All AAZK Members

FROM: Bill Whittaker, Director of Regional and Chapter Affairs

RE: "Bowling for Rhinos", National Zoo Keeper Survey, and non-profit status

AAZK is co-sponsoring with Andy Lodge and The Ngare Sergoi Support Group, a national "Bowling for Rhinos" fundraiser during the week of February 18-24, 1990. This is our first attempt at a coordinated national event other than a conference and we are hoping for 100% participation. Our goal is to raise \$100,000 for the Ngare Sergoi Rhino Sanctuary.

All Chapters should be receiving an information packet. If you have not, please contact your RC or Barbara Manspeaker. It is not necessary to have a chapter to host a "B.F.R.". Several very successful events have been organized by keepers at the John Ball Zoo in Grand Rapids, MI and Potowatomi Zoo in South Bend, IN with the enthusiastic support of their zoos. If you're interested in hosting a "B.F.R." please contact Barbara for an information packet.

Plans for the National Zookeeper Survey will be finalized in Syracuse with initiation to begin soon after. This is a very ambitious project. It is our intention to count and survey every animal keeper we can find. The survey will gather a great deal of information about our profession and will help plot the future course of AAZK. The success of this project will depend on the cooperation of RCs, Liaisons, and all Keepers, not just AAZK members. Please cooperate by filling out the form when you receive it and returning it to your liaison or RC. If you do not receive a form, please contact Barbara. This is a chance for you to be heard.

Non-profit status for AAZK necessitates a number of significant changes for our organization. Foremost among these are changes in the way we operate. The days of the loosely organized and run AAZK are over. Manyana is here! Internal Revenue Service regulations require a complete and accurate financial records system. All chapters have been supplied with forms to fulfill this obligation. There will probably be more. AAZK, its officers and members must function in a professional manner. That means fulfilling our duties on time. Not tomorrow. AAZK must reevaluate our by-laws and consider amendments requiring all chapters and officers to comply with the organizational protocols instituted to conform to IRS and legal requirements. Everyone's cooperation is needed and greatly appreciated.



Information Please

I am interested in information on the hand-rearing and/or parent-rearing of Cotton Top Tamarins (*Saguinus oedipus*). Especially when dealing with the birth of triplets. If you have any information, please send to: Tami Ryf, Dreher Park Zoo, 1301 Summit Blvd., West Palm Beach, FL 33405.

I am looking for information on breeding programs for Mandarin Ducks. Expertise on the subject would be greatly appreciated. Please send to: Grant Tkachuk, 10139-157 Street, Apt. #206, Edmonton, Alberta, Canada T5P 2T9.

1989 American Association of Zoo Keeper Awards

The following awards were presented at the 15th National AAZK Conference held in Syracuse, NY from 1-5 October 1989. The Excellence in Zoo Keeping, and Certificate of Merit for Zookeeper Education Awards are selected by the AAZK Awards Committee from nominations proposed by the AAZK membership. Janet McCoy of the Washington Park Zoo, Portland, OR chaired the Awards Committee this year. The Excellence in Journalism Awards are selected by the editorial staff of Animal Keepers' Forum.

1988 Excellence in Zoo Keeping Award Winners

In recognition of their professional attitude, true dedication, superb application of animal husbandry practices, and contribution to the welfare of the animal life placed in their charge, AAZK presents the following individuals with this award.

Carolyn Bocian, National Zoological Park, Washington, DC

Awarded for extreme dedication in the husbandry and environmental enrichment of the animals in her care; for her work with Colobus guereza; and AAZK Chapter fundraising to benefit the Chimfunshi Wildlife Orphanage and Chimpanzee Sanctuary in Zaire.

John Creviston, Calgary Zoo, Calgary, Alberta, Canada

Awarded for outstanding efforts in the husbandry and propagation of animal species and educational work. Many first hatchings and detailed records of breeding and hand-raising efforts were mentioned.

Neal Duncan, Woodland Park Zoological Gardens, Seattle, WA

Awarded for outstanding dependability and dedication in the husbandry of animals in his care and work on committees and in instructing students. His work with warthogs was especially mentioned.

John Kiseda, New York Zoological Park, Bronx, NY

Awarded for outstanding efforts in the Ornithology Department and work on the Keeper Training Program and the Bird Department Keeper Committee. Collecting trips and studies of ecosystems and behavioral research were especially noted.

Certificate of Merit for Zookeeper Education

In recognition of the outstanding achievement by an institution in establishing and promoting zoo keeper education for their facility, AAZK presents this award to:

New York Zoological Society

Awarded for outstanding support of continuing education and new keeper training. The keeper training committee, chaired by Dr. Michael Hutchins, is to be commended on its efforts to continually evaluate and update the program and its goals to increase communication, disseminate information, improve husbandry skills, and to develop a stronger sense of keeper professionalism.

Excellence in Journalism Awards

Outstanding Mammal Article: "Management and Behavior
of Western Tufted Deer"

Celeste Schwenn
San Diego Zoo, San Diego, CA

Outstanding Avian Article: Successful Propagation of Blue-crowned Mot-mots"

Bernie Feldman
Burnet Park Zoo, Syracuse, NY

Outstanding Herpetology Article: "Captive Management and Propagation of the
Reticulated Gila Monster at the Arizona-Sonora Desert Museum"

Warren K. Wintin and Howard E. Lawler
Arizona-Sonora Desert Museum, Tucson, AZ

Outstanding Husbandry Article: "Observations and Crate
Training of a Reticulated Giraffe"

David E. Ackerman, Columbus Zoological Gardens, Columbus, OH

Outstanding Research Article: "The Importance of Charting
Estrous Cycles in Captive Chimpanzees"

Rusty Harr
Primate Foundation of Arizona, Tempe, AZ

Outstanding Education Article: "What Can a Kinkajou Teach You?"

Terri Schuermann
San Diego Wild Animal Park, Escondido, CA

Outstanding Exhibit Article: "Strategies for Exhibit
Plantings for Large Felids"

Elayne Barclay and Craig Lewis
Washington Park Zoo, Portland, OR

Outstanding Narrative Article: "Be a Slug: Invertebrate
Exhibition for the 90's"

David Thornton
Brookfield Zoo, Brookfield, IL

Outstanding Cover Art: "Jaguar"
August 1988 issue

Geoff Creswell
Topeka, Kansas

Honorable Mention Awards

"Breeding Success and Rearing of Offspring in a Group of California Sea Lions", **Florence Klecha, New York Zoological Society, Bronx, NY** (Mammal Category).

"A Three-year Study of the Double-Wattled Cassowary", **Scott M. Wright, Cleveland Metroparks Zoo, Cleveland, OH** (Avian Category).

"Use of an Artificial Gum Tree Feeder for Marmosets", **Greg Peterson, Kathy Kelly and Lee Miller, National Zoological Park, Washington, DC** (Husbandry Category).

"Monitoring Perineal Swelling in Cercopithecine Monkeys", **Joseph Knobbe, St. Louis Zoo, St. Louis, MO** (Research Category).

"Rethinking the Children's Zoo" **Jeanne Grossmayer, Phoenix Zoo, Phoenix, AZ** (Education Category).

"Hints on Surviving and Working in the Harsh Southern Arizona Winters", **Ed Hansen, Reid Park Zoo, Tucson, AZ** (Narrative Category).

"North American River Otter" Cover May 1989, **Elayne Barclay, Washington Park Zoo, Portland, OR** (Cover Art Category).



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Book Review

Zoo Design: The Reality of Wild Illusions

By Kenneth J. Polakowski

The University of Michigan School of Natural Resources. 1987.

Softcover, 180 pages, 124 illustrations. \$25.00

*Review by Scott M. Wright
Lead Keeper, Cleveland
Metroparks Zoo, Australasia
Cleveland, Ohio*

This book was published as a text for a course that had the following objectives: "(1) To apply disciplinary knowledge and skills in the design of a zoological park and associated animal exhibits; (2) To develop a deeper understanding of the concepts of animal displays, the inter-relationship between animals, plants and people, and the methods for communicating these concepts and knowledge; (3) To acquire knowledge on comprehensive long range zoological park planning/design; (4) To develop an understanding of multidisciplinary planning and design; and (5) To become aware of the factors that determine an individual's responsibilities and contributions to complex environmental development projects."

The text accomplishes these objectives by dividing the book into seven chapters. The first chapter "A Design Approach to Zoological Exhibits" looks into the "design dilemmas" and gives different approaches in which to view a zoo and exhibits. "Evolution of the Zoo" briefly describes the designs and philosophies of zoos throughout recorded time. "Development Goals" is a chapter dedicated to the basic purposes of zoos today; recreation, education, conservation, research and community values.

The fourth chapter "Long Range Development Planning" describes strategic and master planning of zoos and some of the important considerations involved. "Site Organization Themes for Zoological Parks" goes into the different setups that zoos have developed to display animals including zoo-geographic, bio-climatic, taxonomic, and multi-species and special exhibit concepts. The final two chapters "Exhibit Design - A Landscape Architectural Viewpoint" and "Design of Plant Habitats for Animals and People" include the most interesting and valuable information for zoo keepers. These chapters can stimulate the imagination of the average zoo employee and help them understand that a good exhibit not only displays the animal well but stimulates the visitor both intellectually and emotionally and can even educate them as to the animals' natural habitat and its state in the wild.

Although published as a text for a college course there is valuable information that can be of interest to the "established zoo person". Examples of many of the mentioned ideas are exemplified by actual existing zoo exhibits and others in the plans of future zoo exhibits. The 124 illustrations and photographs help bring the ideas into perspective. The book is filled with many quotes and ideas from zoo directors, curators and architects. This book, however, was not one that can be sat down with and read for enjoyment. It takes stamina to read it cover to cover, but the gained knowledge and understandings may help in the development of ideas that continue to shape the zoos of tomorrow.



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Practical Avian Triage

By
Gail Hedberg, AHT
San Francisco Zoo
San Francisco, CA



As aviculture grows in popularity, so must sound husbandry practices. Often in a medical emergency the immediate support of an avian veterinarian is unavailable. An increased demand is placed upon the zookeeper to understand and utilize basic avian first aid skills. This experience and training is so important when the zookeeper is involved with a medical crisis. A familiarity with the different avian species and their particular requirements saves valuable time.

Assessment

Zookeepers are an integral part of a successful treatment process. They are the first persons to take control of the situation. An important task for the keeper is to gather as much background information on the bird as possible. Any available history helps expedite both immediate treatment and complete medical procedures.

Important questions to answer:

- Where was the bird found?
- What was the situation?
 - Collision injury?
 - Orphan or Disease?
- When did you find the bird?
- Have any medications been administered; if so by whom?
- What type of food, if any, has been fed the bird?
- When was the last observed feeding?
- Origin of the bird?
- Length of time in collection?
- Housing arrangements?
- Exposure to other birds?
- Normal diet
- Keeper's comments

This application is called **TRIAGE**: To conduct an examination and rapidly classify the crisis by necessity of the required treatment. Specific areas of concern are stress management, first aid techniques and appropriate support therapy.

Simple first aid measures are often started immediately, pending a more detailed evaluation and diagnosis. Time is a critical factor, therefore each case requires an evaluation to determine the degree of urgency. Degrees of severity are divided into four sections:

#1 Very Severe:

Action must occur within a few minutes.

#2 Severe:

Requires action within minutes to 1 hour.

#3 Serious:

Someone must act within the first hours.

#4 Major:

Action must take place within 24 hours.

Practical Avian Triage. *Continued*

Degrees of Severity

Very Severe (act within a few minutes)

- Airway obstruction
- Cardiopulmonary arrest
- Respiratory arrest
- Rapid hemorrhage

Severe (act within 1 hour)

- Multiple deep lacerations
- Shock
- Penetrating wounds of thorax/abdomen
- Head injuries
- Blunt trauma/shock
- Respiratory distress
- Spinal trauma

Serious (must act within first few hours)

- Multiple deep lacerations
- Thoracic/abdominal injury w/ mod. shock
- Open fractures of major bones
- Acute infections

Major (must act within 24 hrs.)

- Fractures of long bones
- Ligament injuries
- Deep laceration puncture wounds

Stress Management

Stress is a complex physiological component that must be considered during the treatment process. Often the first indication that a bird is overstressed is death. It is important to note, therefore, that stress occurs each time a bird is handled, disturbed, or treated.

Signs of stress in an adult bird are either nervousness or depression. A nervous bird appears alert and active but refuses to eat. Often it regurgitates food and has abnormal stools. A depressed bird has fluffed plumage and a "droopy" posture, appears sleepy or tranquilized, and refuses to eat.

Whether it is nervous or depressed, a stressed bird needs to be kept in a **warm, dark, quiet environment.** These three elements are essential requirements for initial treatment.

Physical Exam

You must assess the extent of the injury. Although the major or primary injury may appear obvious, other complications may exist. Examine the bird as completely as possible in the initial exam. If you cannot examine the bird thoroughly, check for life threatening problems, such as fractures, dislocations, wounds, starvation and dehydration.

First, most important and least stressful for bird and handler is the visual exam, where information is gathered by observation.

The manual exam provides information through handling the bird. Both approaches are important, but keep in mind that physical manipulation is stressful. Is it really necessary? Are there life threatening problems? Cover the bird's head during the handling process to minimize added visual stress. Be as brief and quiet as possible during the manual exam. Allow the bird to stabilize if it exhibits signs of stress.

Practical Avian Triage. *Continued*

Checkpoints for:

VISUAL EXAMINATION:

- Behavior (alert, depressed, convulsing, regurgitating)
- Respiration (rate, depth, sounds, effort)
- Feather Condition (oiled, fluffed, soiled, broken, absent)
- Posture
- Appendages (limbs out of place, non-functioning)
- Stool (amount, color, texture)
- Odor
- Hemorrhage (pin feather, toe nail, laceration)
- Species, Age, Sex

MANUAL EXAMINATION;

- Response to handling
- Prominence of the keel (sharp)- WEIGHT
- Temperature (cloacal: 102-107° F., extremities)
- Mouth (odor, color, lesions)
- Fractures, dislocations, wounds
- Pupil dilation

Stabilization

It may be necessary to stabilize a wing or leg injury before the bird is transported to a medical facility. Fractures and dislocations should be immobilized with a temporary wrap or bandage to prevent further injury. Basic bandaging techniques can be perfected with practice. Bandages should only be used when necessary due to the high stress factor.

Signs of Fractures and Dislocations

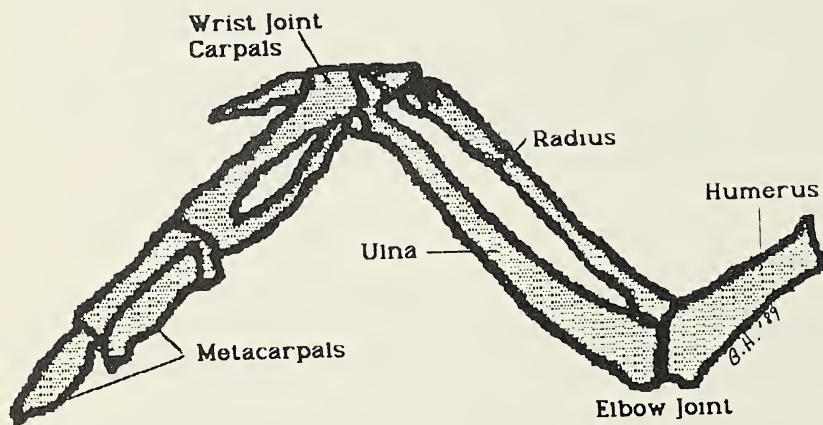
- Lack of movement in the wing/leg
- Awkward position
- Discoloration or swelling around a bone or joint
- Difference in temperature between one wingtip/foot and the other

To stabilize a fracture or dislocation, hold the injured wing or leg in a natural position; bones must be placed in alignment at the fracture site. Support the limb to prevent further damage. Do not use adhesive tape directly on the skin or feathers. Used rolled gauze or rolled cotton and then proceed with the outer wrap. Vetrap® (self-clinging wrap) is recommended. The emergency care is temporary. The bandage must be checked when the bird is stable.

Checkpoints:

- Wrap the bird in a lightweight towel, especially the head. Be sure the bird does not overheat.
- Have someone help you hold the bird. Work quickly and quietly.
- Let the bird stabilize if overstressed.
- Make the bandage as small and light as possible.
- Make sure the bird can breathe, eat and stand comfortably.
- Check carefully to see that the bandage is not restricting circulation.
- Never use adhesive tape or any other sticky tape directly on skin or feathers.

WING ANATOMY



Fractured Metacarpals: Immobilize the radius and ulna to the metacarpals. Figure-8 wrap only.

Fractured Radius/Ulna: Immobilize the metacarpals to the humerus. Body wrap.

Fractured Humerus: Immobilize the humerus and radius/ulna to the body. Body wrap.

BANDAGING TECHNIQUES

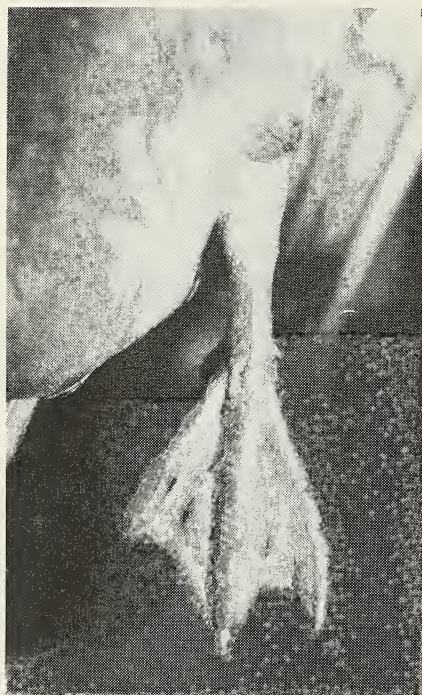
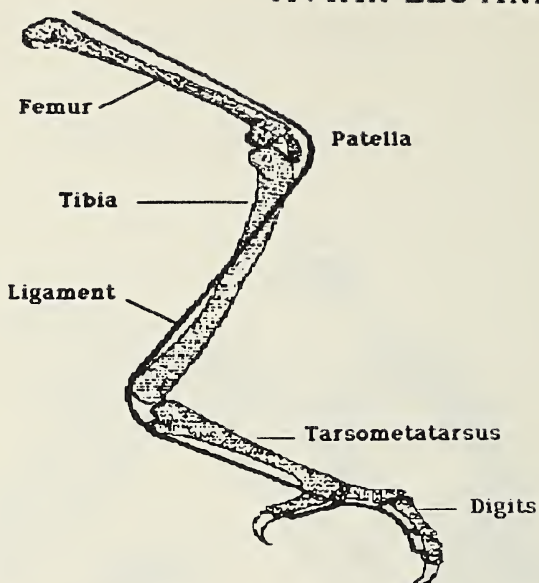


FIGURE 8 WRAP

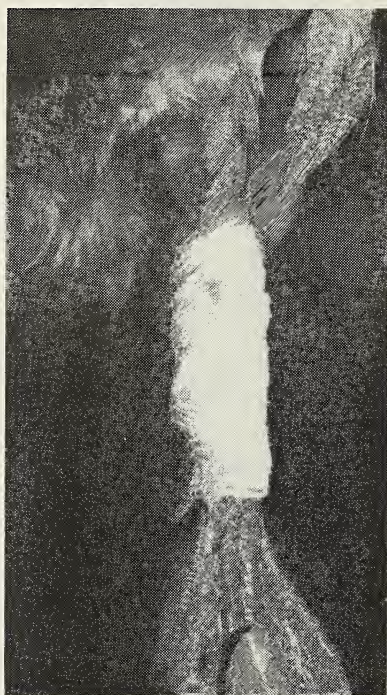


PADDED
WRAP

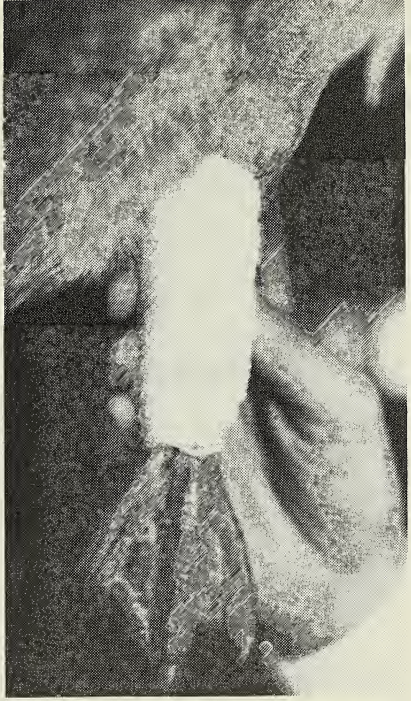
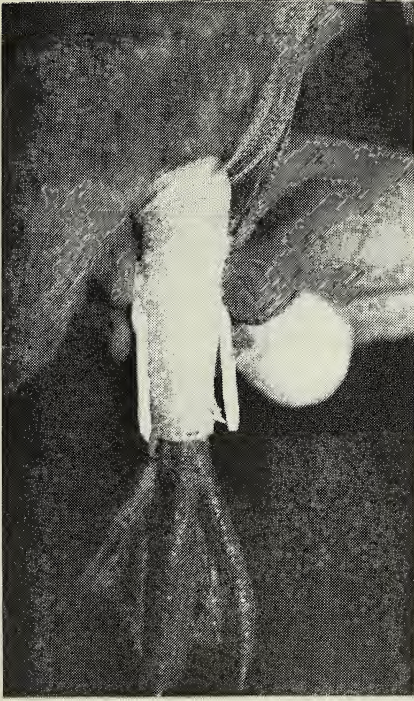
AVIAN LEG ANATOMY



#1 - Injured limb prior to treatment
(Photo © G. Hedberg 1989)

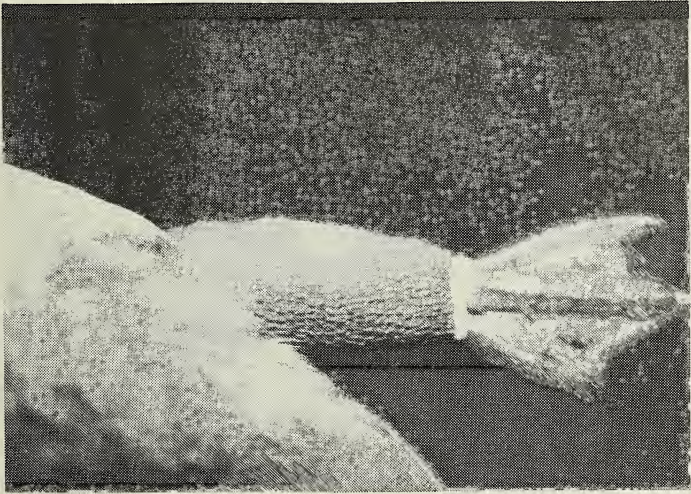


#2-Wrap the entire leg with rolled cotton or gauze; never apply tape to skin. (Photo © G. Hedberg 1989)

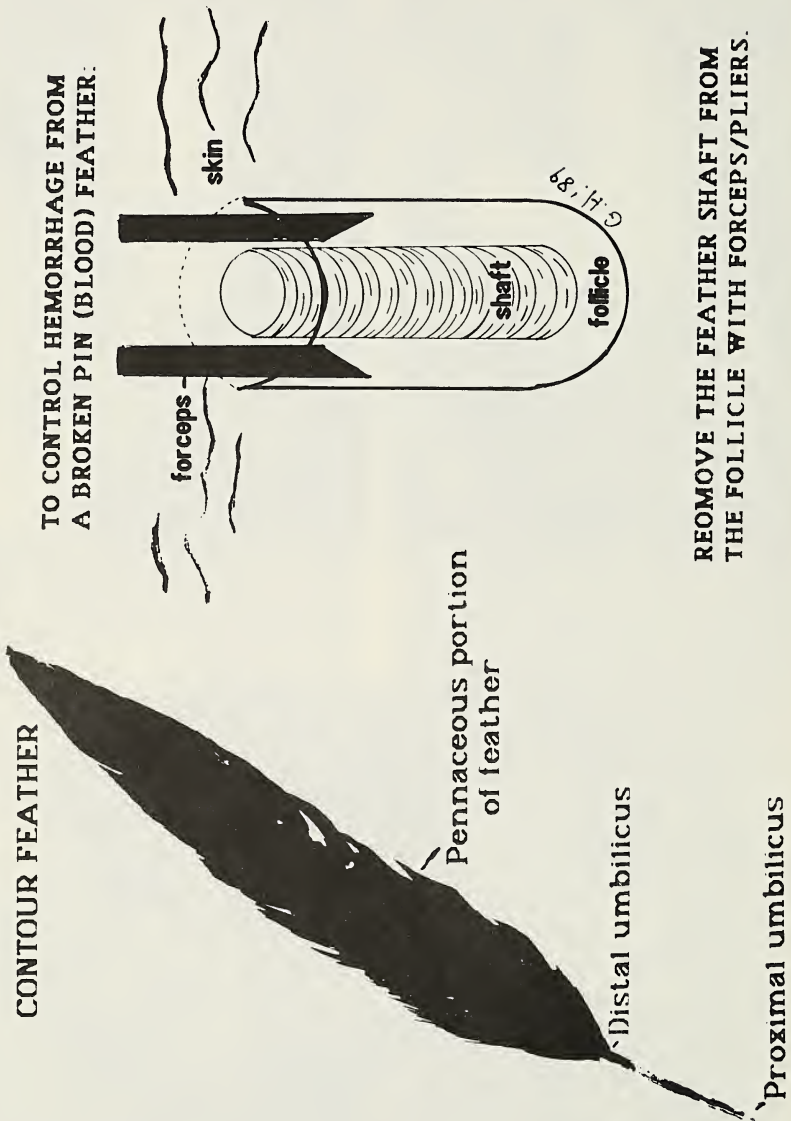


#3-Secure splints (cut-down tongue depressors covered with adhesive tape) with gauze or tape. (Photo © G. Hedberg 1989)

#4-Wrap the entire length of the splints with gauze, padding end of splints. (Photo © G. Hedberg 1989)



#5-Secure the entire length of the splinted dressing with Vetwrap®. (Photo © G. Hedberg 1989)



Practical Avian Triage. *Continued*

Support Therapy

Supplemental heat is a primary first-aid measure for most sick birds. An ambient temperature of 85-100° F. is required depending on body weight, fat and normal body temperature. Adjust the temperature to meet individual requirements. For sea birds that are hypothermic, a series of warm water baths is very effective in restoring normal body temperature.

To keep an infant bird warm, you may have to cup your hands and hold the bird against your body. Inside a blouse or shirt or under your chin is ideal. Infant birds are unable to maintain their own body temperature when frightened or stressed. Young waterfowl are a good example. They must be placed in a brooder. Birds are considered infants from one day to approximately two weeks of age. They are totally dependent on their parents to keep them warm. When the weather cools they lose precious body heat. A sudden drop in temperature with wind (draft) may further compromise the bird and result in death.

Custom built isolettes and baby incubators are useful to provide supplemental heat therapy. Glass aquariums covered with a screen are an inexpensive alternative. Use a heating pad or "K-pad" to maintain proper temperature. Set the container on top of a heating pad; adequate heat will penetrate the box. An alternative heat source can be a plastic I.V. solution bag heated in the microwave to become an instant hot water bottle. Adult birds need the option of moving away from the heat. Place the heat source so the warmest area occupies one-half of the total space. Birds can get trapped between the heating pad and towel bedding if placed directly inside the box. Be sure to install a thermometer to monitor the bird's environment. Test the unit ahead of time to ensure the temperature remains controlled and constant. Self-contained units are easier to clean and disinfect. They allow easy access to the bird and provide an individually controlled environment.

Caution: An elevated temperature can cause hyperthermia. Most birds will show evidence of overheating at temperatures above 90° F. At these higher temperatures birds will hold their wings away from their body and pant. Heat stroke and death can result.

Housing/Transport

Cardboard cat carriers are excellent containers for transporting or holding stressed adult birds. Wardrobe boxes from moving companies make excellent "wards" when you find yourself handling large numbers of birds. Larger, deeper cardboard boxes provide dark, quiet confinement that is particularly ideal for raptors. This type of container is sturdy, yet soft enough to prevent a bird from injuring itself.

Cardboard boxes are not recommended for long-term housing, as birds need a source of light and vitamin D3. Boxes are inexpensive and easy to store. Sanitation is simple - discard the box when dirty, and use a new one.

At times a container may seem small. Restricting space will create an atmosphere in which the bird does not want to move about. This helps to prevent self-inflicted trauma.

A temporary holding container should provide enough space for the bird to stand comfortably. Its tail and wingtips should not press against the sides of the container.

In some cases, as with Strigiformes (OWLS), a determined bird will chew its way out of the box. To prevent this, house birds in closed rooms. Air holes give the bird an opening to enlarge, therefore air holes in the box should be out of reach. If the bird is small, use masking tape to reduce the size of the ventilation opening. Young owls often get their heads caught in air holes and suffocate.

Practical Avian Triage. *Continued*

Substrate

Appropriate substrate is essential for birds. An absorbent material needs to be placed on the bottom of the container. Newspaper alone is not sufficient, as the bird can become contaminated by its own feces. A layer of newspaper and several inches of pine shavings is the accepted protocol for raptors. Sawdust is too fine and causes respiratory distress. It also clings to food and predisposes to intestinal impactions. Cedar shavings are not recommended because of the potential sensitivity to cedar oil. Psittacine breeders prefer raw oatmeal as it is readily digested should the bird ingest small quantities.

Fresh clean towels are excellent when lining the bottom of a container. A bird with a balance problem will grasp the soft padded surface. However, loose strings and threads must be removed as circulation can be damaged from threads entangled around toes and feet.

Seabirds benefit most when placed on a netting frame. This allows the fecal material to drop through to the bottom of the container. It also prevents damage to the feathers from the corrosive properties of fecal material. Using screens, birds requiring an extensive recovery period experience minimal feather damage. The waterproofing is maintained, and their preening behavior is encouraged.

Tube Feeding

Malnutrition and dehydration are serious and life-threatening. Support care includes tube feeding. The purpose of tube feeding is to provide nourishment and replace body fluids lost through blood loss, diarrhea, or malnutrition. When signs of vomiting and severe dehydration are present, tube feeding should not occur. In this case, the bird requires extensive fluid therapy. Fluids should be administered either orally, subcutaneously or intravenously. Oral fluids alone are not enough because the amount needed is far greater than the crop volume.

Often the bird will not eat, or it may not recognize the food. As an example, tubing a processed food source is necessary every 3-4 hours for Columbiformes (pigeons and doves). Other species may need more frequent feedings depending on age and the amount of time needed for the crop to thoroughly empty out.

The tubing formula should be of a consistency that will easily pass through the syringe and tube. Straining the formula is recommended. The tubing procedure itself must require minimal time and effort in order to minimize stress to the bird.

Recommended guidelines are 20cc/lb. per day in 4 divided doses or 5cc/lb every 3-4 hours. The fluid maintenance requirements for aves is 50cc/kg/day. A bird in shock may need 2-3 times that amount until rehydrated. Start with small amounts at frequent intervals. This allows the crop to adjust to larger volumes.

Tubing is not difficult but requires training and experience. Knowledge of the anatomy of a bird's digestive system is needed. Choosing the correct tube size is important; this too comes with experience. The tube must be placed down the back of the pharynx and esophagus into the crop. The glottis is the opening to the trachea. Do not force the tube into this opening. The involuntary neuromuscular response of the glottis prevents aspiration. Once the tube is in the crop, slowly push the plunger and place the food mix in the crop.

Summary

Avian emergency care requires a systematic approach. Typically, a step-by-step assessment will dictate the appropriate action. Preliminary evaluation and appropriate action in a crisis situation will help stabilize the patient. A veterinarian will then be able to diagnose and recommend an appropriate course of treatment.

Practical Avian Triage. *Continued*

The guidelines provided in this paper apply to all species, however each species classification has predetermined requirements. An awareness of these differences must be emphasized. Even though each case is different, each experience prepares you for the next.

Stress management must be practiced to ensure positive results. An awareness of stress factors will increase a bird's chances for survival. Remember, a meticulously applied bandage might look great, but the effect is spoiled if the bird expires during the procedure! Detailed attention to the basics such as providing a warm, dark and quiet environment is so important. The ability to work effectively and efficiently adds to the successful outcome.

First aid techniques and applications are essential. With a little preparation, first aid supplies and equipment can be organized. Once the needs are outlined, individual facilities can define their role in avian medicine.

Support therapy for birds is specific. Providing supplemental heat as well as suitable housing are prerequisites. Malnutrition and dehydration are often secondary complications, however, an immediate assessment is needed.

Triage is just one factor when discussing avian husbandry. Flexibility and creativity are of great importance in the care of exotic aves. So often in an emergency, the key to successful treatment is attention to the basic elements.

APPENDIX

Suggested Supplemental Supplies for Use With Avian Patients

Incubator, specially designed cage or other temperature-controlled environment.

Thermocare, Inc. P.O. Box YY, Incline Village, NV 89450.

Manion Crest Mfg., 13846 Kurtz Rd., Grass Valley, CA 95048.

Cardboard boxes (1' X 2' and 4" X 6")

Heating Pads (recommend "K-pad" hot water heating blanket)

Hot water bottles or empty shampoo/fluid bags (for transport)

Heat lamps

Sink w/hot-cold water

Rubber tubs

Towels (assorted sizes) and blankets

Newspaper

Pine Shavings

First-Aid Supplies

Splinting material (tongue depressors, popsicle sticks, wooden coffee stirrers, cotton-tip applicator sticks)

Masking tape and adhesive tape 1, 2, and 3-inch widths

Transpore and Micropore surgical tape "3M"

Rolled Cotton

Rolled Gauze

Cling-curity stretch wrapping 2, 3 and 4-inch widths

Telfa Pads (do not stick to wound)

Gauze sponges

Vetwrap-self clinging wrap 3 and 4-inch widths

Non-sterile rubber gloves

Scissors (pointed: removing fish hooks and line)

Surgical Soap (Betadine)

Topical Ointment (Nitrofurazone, Betadine)

Practical Avian Triage. *Continued*

First-Aid Supplies *(continued)*

Silver-Nitrate sticks
"Quick-Stop"
Eye Dropper (administer fluids to songbirds)
TB Syringes-Monoject
Assorted syringes 3cc, 6cc, 20cc
Catheter tip syringes 35cc, 60cc
Feeding Tubes 6-8fr., 12-14fr.

Miscellaneous

Field Guide (species identification)

Hair Dryer

1 pr. light weight work gloves
1 pr. heavy duty welding gloves (handling aggressive birds)
Protective eyewear (goggles, shatterproof sunglasses)
Large net (4' pole/net diameter 2' w 1/2-inch mesh)
Small net (4' pole/net diameter 1' w/small mesh netting)
 Hill and Hill Custom Veterinary Supplies, 324 E. Shamrock, Rialto, CA 92376.
 West Coast Netting, Inc., 14929 Clark Ave., City of Industry, CA 91745.
 Fuhrman Diversified, Inc., 905A S. 8th St., La Porte, TX 77571 (draw-string)
Band removers - L and M Bird Leg Bands, P.O. Box 2943, San Bernadino, CA 92406.
Small wire cutter
Needle nose pliers
Bolt cutter for heavy bands
Environmental thermometers
Flashlight
Dawn detergent or Amway's LOC
Ceramic food/water dishes
Covered perch (raptor)
Net frame (for seabirds)
Handling sticks (for parrots)

Food Supplies

Oral electrolytes (Pedialyte, Gatorade)
Injectable electrolytes (Lactated Ringers, 5% Dextrose)
Baby Bird Diet (frozen in small amounts)
IWRC Hummingbrd Diet (frozen in small amounts)
Dry dog food (Science Diet)
Bird Seed
 Dove & Quail Seed
 Parakeet seed
 Parrot seed (limit sunflower)
Game Bird Mash (Purina)
Startena (Chick starter mash) (Purina)
Mealworms
Frozen crickets
Frozen chicks or mice
5 pounds frozen smelt, herring or anchovies
Frozen vegetables

Practical Avian Triage. *Continued*

Baby Bird Diet

(The Wildlife Center of San Rafael)

Using a Food Processor:

Process: 1 hard-boiled egg

Process to mix dry ingredients:

- 1/2 cup Gerber's Hi Protein Cereal
- 1 cup ground Feline Science Diet
- 1 teaspoon Super Preen (vitamin source)
- 1/4 teaspoon calcium powder

Add: 2 cups Bottled Water

Process and Pour into Jar with current date.

Check for consistency; add more water if desired. Final consistency is thick. Be sure to process for 5 minutes. Scrape sides halfway through mixing. It **must** pass through a syringe

IMPORTANT: When using formula for nudies, add water. Naked babies need diluted formula to avoid impaction.

Store in small quantities, discard after opened 24 hours.

Hummingbird Diet Information, contact:

International Wildlife Rehabilitation Council
1171 Kellogg Street
Suisun, CA 94585

Suggested Reference Material

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Chapter News

Milwaukee County Zoo AAZK

The Milwaukee Chapter of AAZK started out 1989 by inviting Andy Lodge to give a talk about the Ngare Sergoi Rhino Preserve. We presented Andy with a check for \$1000 for the Preserve which included money from paper drives, a raffle, and goodwill offerings after the talk. We've been conducting bimonthly newspaper/aluminum can drives throughout the year to raise money for the Rhino Preserve and other conservation projects that need assistance. We also were able to provide money to the Goeldi Zoological Park and Museum in Belem, Brazil to repair its capture equipment.

Our Chapter held a bake sale in February to raise travel assistance money for keepers or other interested persons to attend AAZK conferences. Four recipients will benefit from this fund in the next year. The bake sale will be an annual fundraising event to benefit various chapter activities.

During Conservation Weekend (June 11-12), the Chapter staffed a booth at the zoo exhibiting the AAZK career brochure, the Animal Keepers' Forum, AAZK mugs and AAZK egg ornaments. We also asked Andy Lodge to send us T-shirts, mugs and stationary to sell at our booth to benefit the Rhino Preserve and increase the awareness of the plight of the black rhino. We were successful in selling over \$1000 worth of T-shirts and mugs for Andy in just those two days.

In the aftermath of the Exxon disaster, our Chapter initiated a letter that urges our senators to vote against bills that would open the Arctic Wildlife Refuge to oil development. The letter was circulated throughout the zoo and 60 signatures were obtained.

For a week in late September, we hosted a keeper from Bay Beach Wildlife Sanctuary in Green Bay, WI. The keeper was interested in learning about the care, management

and exhibit design for some species that will be new to her facility. Our keepers shared their experience and knowledge to give her ideas in setting up the new exhibits at the Sanctuary.

Finally, we are in the midst of constructing nestboxes for wood ducks and bluebirds to be placed around our zoo. We are hoping to attract these birds to the zoo in an effort to enhance their dwindling populations by providing good nesting sites.

--Karin Newman, Chapter Liaison

Edmonton Chapter AAZK

Our newly elected officers for 1989 are:

President.....Penny West
VicePres.....Maureen Anderson
Secretary.....Barb Heemskerck
Treasurer.....Sandy Karpluk
Chapter Liaison.....Wendy Keeling

At our last guest speaker night we had Bernie Arnold from Alberta Fish and Wildlife give us a very interesting and informative talk on Alberta's new Wildlife Act. We also had a good turn-out for our Chapter barbeque which was attended by members and friends. The Chapter is currently working on a project to increase awareness of the plight of the black rhino and to raise money for the Ngare Sergoi reserve in Kenya. The chapter has built a life-size rhino out of plywood and along with a video and information pamphlets we are planning to set up educational displays in shopping malls. We are also looking forward to a visit from Andy Lodge in February.

--Wendy Keeling, Chapter Liaison

Louisville AAZK Chapter

Newly elected officers for the Louisville Zoo AAZK Chapter are:

President.....William Quatman
Keeper II
Treasurer.....Ann Huck, Keeper II
Secretary.....Austin Preston
Keeper II

Chapter News, Continued

North Pacific Coast Region Holds Fourth Meeting

Chapters and zoos in AAZK North Pacific Coast Region held their Fourth Regional Meeting in late July. Keepers in attendance represented the following chapters/facilities in the region: Puget Sound Chapter, Seattle; Mt. Tahoma Chapter, Tacoma; Walk in the Wild Zoo, Spokane; Northwest Trek, Eatonville, WA; Greenlaw, Puyallup, WA; Portland Chapter, Portland; and High Desert Museum, Bend, OR.

The meeting was held at Northwest Trek and included a tour of the facility's free-ranging area and a light supper before the business meeting.

Each Chapter or facility without a chapter reported on their activities since their last regional meeting. Some highlights include:

Portland Chapter sponsored a visit by a veterinarian from Guadalajara and has purchased two Patronships of the Belize Zoo, giving one to Washington Park Zoo's volunteers in appreciation for their service.

Puget Sound Chapter hosted the annual Summer Solstice which 115 zoo folks from the region attended. Proceeds from the event were used to purchase 3 1/2 acres of rainforest in the Guanacaste National Forest in Costa Rica through the Adopt-an-Acre Program., coordinated by the Greater San Francisco Bay Area Chapter.

Mt. Tahoma Chapter has persuaded administrators to add 1/2 hour of zoo time for Keeper Education hours, enabling them to expand their format to 90 minutes.

Following the reports, Elandra Aum, RC for the Region, distributed information on the changing role of the RC System, of chapters, and of members. The next meeting is scheduled at the Woodland Park Zoo in November.

--Elandra Aum, RC

Metro Boston Chapter AAZK

During the summer, the Chapter raised money by selling soda at the Stone Zoo concession stand. They have made over \$1500 and this money, along with the money they continue to make recycling bottles and cans, is ear-marked for purchasing items for the metroparks' zoos and to send keepers to conferences.

In June the Chapter voted to donate \$100 to the local conservation organization, Essex County Greenbelt Association. Each year, the Chapter contributes 5 or 10% of their treasury to a conservation organization.

At their July meeting the Chapter voted to purchase a liquid nitrogen storage tank and accessories for the Franklin Park Zoo Hospital. This will be used to store semen and ova collected from the animals in their collection during knockdown procedures.

--from Keeper News, Summer'89

Greater San Francisco Bay Area Chapter

This active Chapter continued its 1989 Zoo Medicine Symposium Series on 19 September with a presentation by Dr. Ed Ramsey, DVM. His topic was "Medical Management Without Restraint". Chapter members are admitted to the lectures free; others pay \$5.00 per lecture.

--Chapter Flyer

San Diego Chapter AAZK

The Chapter hosted a special meeting in September on Wolf Conservation. The evening included a film, lecture, question and answer session along with the opportunity to meet Shaman, a black northern Rocky Mt. Timberwolf. The speaker was Kent Weber on "Mission: Wolf". The meeting was also open to the general public.

--Chapter Flyer



Development of a Supplemental Feeding Protocol for a Western Lowland Gorilla

By Lilli Thorpe, Primate Keeper
Audubon Park & Zoological Garden
New Orleans, LA
(Currently at Primate Dept., Dallas Zoo)

Introduction:

Research of hand-reared versus mother-reared primates has shown that the first six months to one year of the infant's life is the most important time to be with the mother (Davenport, 1978; Gabriel, et al, 1986; Harlow and Harlow, 1962). Infants that are removed early from their mothers and raised in a controlled situation are more healthy and their mortality rate decreases (Harlow and Harlow, 1962). When these animals become adults their behavior is abnormal compared to the behavior of mother-reared infants (Nadler, 1982; Mason, et al, 1968). Studies have shown that for the development of normal species-specific behavior of great apes, it is necessary to have social interactions with the mother and other conspecifics (Meder, 1985; Nadler, 1974; Nadler, 1982). Lack of these interactions induces a variety of behavioral inadequacies such as lack of breeding, inability to interact appropriately with peers, poor quality parental care, and overdependence upon human interactions. However, hand-rearing gorilla infants is at times necessary in the captive setting.

There are nine generally recognized reasons that zoos remove gorillas to hand-rear:

1. Mother does not feed or provide adequate maternal care
2. Mother feeds but does not provide adequate maternal care
3. Mother does not feed but provides adequate maternal care
4. Zoo's normal protocol
5. Maximize reproductive potential of adult females
6. Illness
7. Interference by other group members
8. Breeding loan agreement
9. Other (ex. surgery)

This paper focuses on #3; the mother provides adequate maternal care but does not feed the infant. We at Audubon Park and Zoological Garden define adequate maternal care as the holding and protecting of the infant by the mother.

This paper will document a supplemental feeding protocol used at Audubon Park and Zoological Garden that enabled an infant gorilla (*Gorilla gorilla gorilla*) to stay with its mother and other group members despite problems with maternal feeding.

Methods:

In 1986, Audubon Park and Zoological Garden housed 3.2 Western lowland gorillas: an eleven-year-old silverback, 2 adult females, and 2 infant males. The gorillas are exhibited in a large outdoor enclosure during the day. At night the animals are housed in three separate 10' x 10' x 12' indoor cages, henceforth called nighthouses. They are bar fronted with the bars spaced 1.4" apart.

The only breeding female, Fanya, thirteen years old, has given birth to three infants at Audubon. The first two were removed from the mother at approximately eight weeks of age due to maternal neglect and conspecific interference, especially from the young silverback. The subject of this paper is her third infant, Mahameli, born 20 September, 1986. With this infant, the mother clearly demonstrated improved maternal care, including more carrying and protective behavior.

Development of a Supplemental Feeding Protocol for an Infant Western Lowland Gorilla. *Continued*

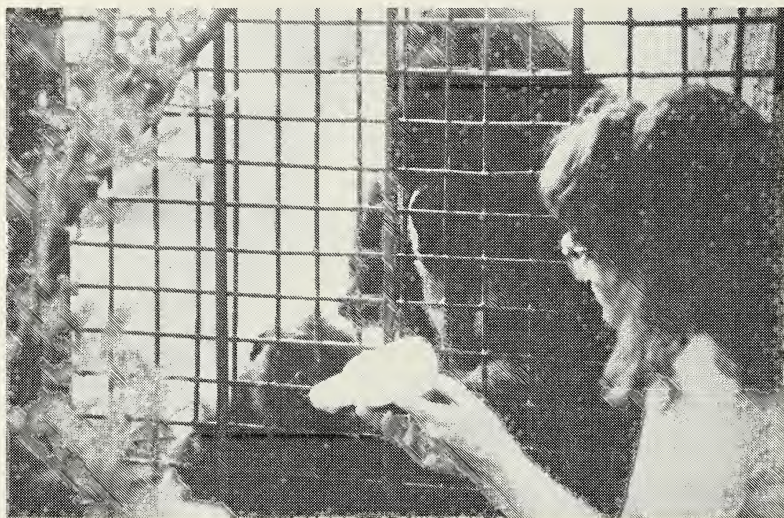
Unfortunately, by the time the infant was 50 days old, he had cut all four first incisors and was chewing while nursing. When Mahameli attempted to nurse, Fanya would yank him off her breast. He cried at this treatment. Initially there was little concern about the adequacy of his feeding since his crying bouts were short in duration and his stomach appeared full. By the 56th day, Mahameli's stomach was never more than 1/3 full as compared to previous days. During the next two days, his activity level decreased and his vocalization increased.

The veterinarian re-examined the infant and found him hungry and slightly dehydrated. The staff did not want to separate the mother from the infant during the exam. Using treats to coax her, Fanya brought the baby to the front of the nighthouse, where she laid it on the floor next to her. The keepers were able to further distract her with treats long enough for the exam to occur. Fanya remained calm and appeared disinterested throughout the exam which proceeded without incident.

Fanya had shown herself capable of providing adequate maternal care. She now demonstrated that she was receptive to the use of treats as a distraction. Aware of the difficulties associated with hand-rearing infant gorillas and re-introduction, the staff decided to design a supplemental feeding regime that would enable Mahameli to remain with his mother.

Procedure. The first step to supplemental feeding was to get the adults habituated to the bottle. We used a long-neck beer bottle with a lamb's nipple because a regular baby bottle would not fit through the nighthouse bars. Masking tape was wrapped around the neck of the bottle and the nipple to prevent the nipple from coming off and the bottle from shattering if the gorillas attempted to slap it.

When the bottle was first introduced, the adults reacted by attempting to shield themselves using rubber tubs. However, the mother used the infant as her shield. To alleviate their fear of the bottle, we placed baby food on the nipple. When this was first offered to each adult, they slapped at the nipple and ran away. They ate the baby food after a few repetitions. Subsequently, when shown the bottle with no food on the nipple, it was ignored.



Primate Keeper Lili Thorpe is shown giving a supplemental feeding to the infant gorilla, Mahameli, while its mother, Fanya, holds her offspring up next to the enclosure barrier. (Photo: Carolyn Kennedy, Primate Keeper, Audubon Park & Zoological Garden, New Orleans, LA)

Development of a Supplemental Feeding Protocol for an Infant Western Lowland Gorilla. *Continued*

The next step was to condition the mother to bring the infant to the front of the nighthouse so he could have access to the bottle. This was done using raw peanuts, grapes, and baby food as incentives. The rewards were at first given every time the mother came to the front of the nighthouse. When this was done on command, treats were then offered only when she brought the infant with her. Having achieved this task, the mother was offered treats only when the infant was close enough to the bars to reach the bottle.

There were six training sessions in three days, during early morning and later afternoon, while the gorillas were in the nighthouses. The sessions were limited to 10-13 minutes so the mother would not lose interest in the training.

At the first attempt of feeding, the infant took to the bottle immediately. While the infant was eating, Fanya received a treat, one piece at a time. The goal was to distract her from pulling Mahameli away from the bottle before he was finished. At the first offering, Mahameli received only 1/8 ounce of formula before Fanya pulled him away. When we tried again that afternoon it took 30 minutes for Mahameli to receive an ounce of the formula. This was due to the mother pulling him away and then bringing him back for an offered treat.

On the morning of the second day of training, it took 30 minutes for the infant to receive the 2 ounces of offered formula. Again, it was not due to the infant not wanting to eat. When the mother had the infant close enough to reach the nighthouse bars, Mahameli would pull himself to the nipple. At one time during the session, he was sucking for one minute before Fanya took him away.

By the fourth training session, the afternoon of the second day, Fanya's response time for presenting Mahameli for feeding was decreasing. Again, Mahameli took the offered 2 ounces. At the morning feeding of the third day, the mother carried Mahameli over to the front of the nighthouse immediately. Mahameli received 1.5 ounces before Fanya pulled him away. When she carried him over again, he was able to finish the rest of the 3 ounces that were offered. This feeding took only fifteen minutes. That night, Fanya carried Mahameli over immediately and laid him on the floor next to the bars. She sat next to him and let him finish the bottle at one sitting. From that point on, we had few problems with the mother.

At night all the adults are separated for feedings, but since this is impossible to do in their outdoor exhibit, the other two adults had to be conditioned not to interfere with the infant's feedings. The back of the gorilla exhibit is 2.25" x 2.25" galvanized welded wire. The neck of the bottle easily fit through the mesh for feedings.

After only one session, the other two adults learned if they sat next to the infant or mother and did not interfere, they were rewarded with treats. (They were offered treats the same way the mother was.) If they interfered while the infant was eating, the mother would chase them away or the keeper would verbally reprimand them, and they were denied any rewards. There were only four times throughout the 16 months when the other 2 adult gorillas interfered with the feedings and Fanya pulled Mahameli away. One keeper worked with the training for two weeks, then all five primate keepers did the feedings.

After two months, we reduced and finally stopped offering treats to the mother and other conspecifics. Fanya eventually let the infant come to the bottle without her.

The first four feedings were 1/2 Similac® and 1/2 Pedialyte® solution. Later feedings were full strength Similac®. We started supplementing the nursing only twice a day (see chart). This increased to five times a day as Fanya continued to reject Mahameli's nursing attempts.

The quantity and frequency of the feedings were determined by the flatness of the infant's stomach, how hungry he seemed when the bottle was offered, how hungry he appeared after eating, and if he finished all that was offered.

Development of a Supplemental Feeding Protocol for an Infant Western Lowland Gorilla. *Continued*

**Audubon Park and Zoological Gardens
Supplemental Feeding Schedule 9 weeks to 18 months**

Age (wks)	Formula	Frequency	Total Volume/Day
9	Similac®	2 x Day	4 oz.
10	Similac	4 x Day	12 oz.
11	Similac	5 x Day	20 oz.
13	Similac + 1/4 dropper Polyvitamin BID	5 x Day	20 oz.
19	Similac + Vit + 1 tsp Rice Cereal BID	5 x Day	25 oz.
20	Similac + Vit + 2 tsp. Rice Cereal/Bottle	4 x Day	24 oz.
27	Similac + Vit + 3 tsp. Rice Cereal/Bottle	4 x Day	26 oz.
28	Similac + Vit + Rice + 1 tsp fruit mixture/ Bottle	4 x Day	26 oz.
33	Similac + Vit + Rice + Monkey Chow Dust added to fruit mixture + 2 tsp fruit mixture/ Bottle	4 x Day	28 oz.
39	Similac + Vit + Rice + 4 tsp. fruit mixture/Bottle	4 x Day	28 oz.
48	Similac + Vit + Rice + Fruit	3 x Day	21 oz.
12 (months)	Chewable Children's Vitamin/Day	3 x Day	21 oz.
14 (months)	Similac + Rice + Fruit	2 x Day	14 oz.
16 (months)	Similac + Rice + Fruit	1 x Day	7 oz.
18 (months)		WEANED	

Development of a Supplemental Feeding Protocol for an Infant Western Lowland Gorilla. *Continued*

Rice cereal was added to the formula when the baby was 19 weeks old. At 28 weeks a fruit mixture of blended bananas, apples, and cooked yams was added to the formula. Monkey chow dust was added to the fruit mixture when Mahameli was 33 weeks old. Adding monkey chow dust to the formula provided added nutrition. It also enabled the infant to develop a taste for monkey chow. Our previous experience with hand-reared great apes had demonstrated that monkey chow was not readily accepted as a food item.

Mahameli had started chewing and ingesting small amount of the adults' fruits and vegetables when he was 3 months old. At 6 months old, he was eating fruits and vegetables. At approximately a year, we began the weaning process by reducing the number of formula feedings and increasing the amount of fruits and vegetables. Mahameli was weaned at 18 months old.

Discussion:

The supplemental feeding program permitted Mahameli to remain with the gorilla group and develop normal social and behavior patterns. His mother, Fanya, has exhibited more effective behavior to protect the infant from the young silverback. Eventually, a positive relationship developed between Mahameli and the silverback, and they now sleep and play together.

It should be stated that the staff has a good rapport with the gorillas. The gorillas at Audubon Zoo are hand-fed their vitamins and treats through the nighthouse bars daily. This enables the staff, which includes the keepers and the veterinarian, to get a close look at the gorillas. The gorillas are comfortable with us at close proximity. Because of the relationship that we have developed with the gorillas, we were able to try and succeed at supplemental feeding.

Conclusion:

Supplemental feeding provides an alternative to hand-rearing and has many advantages:

1. Maintenance of normal species-species behaviors.
2. With this method it is possible to cross-foster among group members.
3. Nursing infants can be supplemented assuring adequate nutrition.
4. Close contact allows better inspection of infants.
5. The infant can be more easily medicated should this be required.

The success of Audubon Park and Zoological Garden's supplemental feeding program suggests that the regime should be considered before an infant is removed from a mother that is providing adequate maternal care with little or no nursing.

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Development of a Supplemental Feeding Protocol for an Infant Western Lowland Gorilla. *Continued*

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Products Mentioned in the Text:

Similac® and Pedialyte®, Ross Laboratories, Division of Abbot Laboratories U.S.A., Columbus, Ohio 43216.

Gerber® Rice Cereal, Gerber Products Co., Fremont, Michigan 49412.

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AAZK Announces New Professional Members

- | | |
|--|--|
| Donna Patterson, York's Wild Kingdom (ME) | Susan Maiorano, Popcorn Prk. Zoo (NJ) |
| Christopher Dube, York's Wild Kingdom (ME) | Carol Williams, Bronx Zoo (NY) |
| Sherri Reinhert, National Zoo (DC) | Kim Haustedt, North Carolionia Zoo (NC) |
| Tom Walker, Zoo Atlanta (GA) | Kelly Ann Lace, Jacksonville Zoo (FL) |
| Joseph Shilling, Sea World of Florida (FL) | Krista Bagwell, Aviculture Breeding and Research Center (FL) |
| Charlene McKee, Lowry Prk Zoo (FL) | Samuel Clites, Louisville Zoo (KY) |
| Kelly Hall, Cypress Gardens (FL) | Wayne Carpenter, Toledo Zoo (OH) |
| Garland Bird, Jr., Louisville Zoo (KY) | Patricia Pearthree, Indianapolis Zoo (IN) |
| Kevin Cassman, Indianapolis Zoo (IN) | Jill Greene, Lincoln Prk Zoo (IL) |
| John Wightman, Milwaukee County Zoo (WI) | Lynn Tupa, Lincoln Prk. Zoo (IL) |
| Joseph Stocchero, Lincoln Prk. Zoo (IL) | Carolyn Boling, Audubon Zoo (LA) |
| Ross Horton, St. Louis Zoo (MO) | Timothy Snyder, San Antonio Zoo (TX) |
| Stephen Baynes, Audubon Zoo (LA) | Jackie Zeiler, Denver Zoo (CO) |
| Edmundo Rios, Abilene Zool. Gdns. (TX) | Bobbi Harrison, Out of Africa Prk. (AZ) |
| Peter Hawthorne, Denver Zoo (CO) | Jim Ohl, Wildlife Breeding/Rehab Cntr. (C) |
| Carol Strilich, Sea World (CA) | |
| Renee Richardson, Exotic Feline Breeding Compound (CA) | |

Renewing Contributing Members

Virginia Zoological Park, Norfolk, VA
Jack Brown, Director, Santa Fe Community College Teaching Zoo, Gainesville, FL





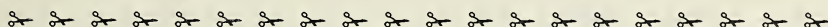
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Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted. Our phone is (913) 272-5821 Ext 31 and our FAX is (913) 272-2539.

KEEPER 2...requires degree in biology or related field or equivalent work experience in the husbandry of indigenous herps and aquatic specimens, especially marines. Will be responsible for daily teaching and monitoring of all fish, reptiles, amphibians and invertebrates. Salary \$12,480 plus excellent benefits. **Open until filled.** Send resume to: Curatorial Director, Virginia Living Museum, 524 J. Clyde Morris Blvd., Newport News, VA 23601.

WILD ANIMAL KEEPER...requires bachelor's degree in biology or 1-2 years' applicable experience in bird or mammal husbandry. Responsibilities include daily care and feeding of collection. Immediate opportunity at the Bronx Zoo Bird Department, others to open in late 1989 at other zoos in New York City. Salary \$23,354 per annum, generous benefits included. Send resume to: Angelo Monaco, Personnel Manager, Bronx Zoo, Bronx, NY 10460.

ANIMAL CURATOR...position requires daily cleaning, feeding and record keeping. 5-day week. Starting salary \$12,000. After one year - paid vacation, holidays, sick leave and pension. One year of exotic animal experience necessary. Send resume to: Jungle Larry's Zoological Park, P.O. Box 7129, Naples, FL 33941.

AVICULTURIST TRAINEE...responsibilities include maintenance of exhibits, care and observation of bird collection, record keeping and interaction with public. High school diploma required, Zoo experience preferred but not required. Starting pay \$5.77/hr. plus benefits. Send resume to: Sea World of California, 1720 S. Shores Road, San Diego, CA 92109, Attn: Teresa Bontz.

ANIMAL KEEPER/MAMMAL DEPT....each candidate must have one year paid experience in the care and handling of a variety of mammals, excluding pets; or have 6 months' experience in the care and handling of animals in a zoological institution or have a bachelor's degree from an accredited college or university in biology, zoology, animal science or veterinary technology. Under direct supervision of a Senior Keeper and/or Curator. Salary \$15,000 - \$17,000. Send resume to: Personnel Dept., Baltimore Zoo, Druid Hill Park, Baltimore, MD 21217.

ZOOKEEPER...Topeka Zoo - requires high school diploma. College-level biology courses and one year's paid zoo experience desirable. Relevant unpaid experience may substitute. Salary \$16,037, plus benefits. Send resume **by 31 October 1989** to: Personnel Department, City of Topeka, P.O. Box 1991, Topeka, KS 66601.

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AAZK Membership Application

Name _____ check here if renewal []

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Mail this application and check or money order (U.S. CURRENCY ONLY PLEASE), made payable to American Association of Zoo Keepers, Inc., to : AAZK Administrative Offices, Topeka Zoo, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

Membership includes a subscription to *Animal Keepers' Forum*. The membership card is good for free admission to many zoos and aquariums in the U.S. and Canada.

INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed and double-spaced. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size **no greater than 6" x 10"** (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species (as per ISIS) the first time it is used. Thereafter use common name. Black and white photos only accepted.

Articles sent to *Animal Keepers' Forum* will be reviewed for publication. No commitment is made to the author, but an effort will be made to publish articles as soon as possible. Lengthy articles may be separated into monthly installments at the discretion of the editor. The editor reserves the right to edit material without consultation unless approval is requested in writing by the author. Materials submitted will not be returned unless accompanied by a stamped, self-addressed envelope. Telephone or FAX contributions of late-breaking news or last-minute insertions are accepted. However, long articles must be sent by U.S. mail. The phone number is (913) 272-5821 Ext. 31. FAX # is 913-272-2539.

DEADLINE FOR EACH EDITION IS THE 15TH OF THE PRECEDING MONTH

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Washington , DC 20008

Animal Keepers' Forum

November 1989



Dedicated to Professional Animal Care

Coming Events

Elephants: The Deciding Decade

November 17, 1989

Toronto, Canada

A fundraising benefit to aid the African elephant sponsored by Zoocheck Canada. Featured speakers include: Dr. Richard Leakey, Dr. Iain and Oria Douglas-Hamilton, Katharine Payne, Ian Redmond and Bill Woodley. All proceeds will go directly to support Dr. Richard Leakey's anti-poaching program in Kenya to mobilize, train and equip anti-poaching patrols. To be held at Convocation Hall, University of Toronto, 31 King's College Circle. Tickets \$15.00. To charge tickets by phone call (416) 872-1111. Also will include art exhibition and sale of work by prominent wildlife artists.

The Eighth Annual Dr. School Conference on Nutrition of Captive Animals

December 8-9, 1989

Chicago, IL

Co-sponsored by the Lincoln Park Zoological Society and the Chicago Park District, the conference will be held at Lincoln Park Zoological Gardens. Topics will include koala browse production and development of alternative feeds, body composition testing of gorillas, natural vs. synthetic Vitamin E as a supplement, and the impact of secondary plant compounds and toxins on browse use. For registration information, contact Lois Stanley, Lincoln Park Zoological Gardens, 2200 North Canon Drive, Chicago, IL 60614, (312) 294-4666.

1990 AAZPA Regional Conferences

Central Regional - 11-13 March - for more information, contact Kathy Rickard, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 78520 (512) 546-7187.

Western Regional - 25-27 March - For more information, contact Kim Parker, Sacramento Zoo, 3930 West Land Park Dr., Sacramento, CA 95822 (916) 449-5166.

Southern Regional - For more information, contact Mary Leverette, Riverbanks Zoological Park, P.O. Box 1060, Columbia, SC 29202 (803) 779-8717.

Northeastern Regional - For more information, contact Gretchen Ellsworth, National Zoological Park, 3000 Block of Connecticut Ave., N.W., Washington, DC 20008 (202) 673-4666.

Great Lakes Regional - For more information, contact Jim Anderson, Fort Wayne Children's Zoo, 3411 Sherman Blvd., Fort Wayne, IN 46808 (219) 482-4610.

Gorilla Workshop

June 22-25, 1990

Powell, OH

The Columbus Zoo is hosting a three-day Gorilla Workshop with the emphasis on behavioral solutions to behavioral problems in the captive gorilla population. For further information contact: The Great Apes Staff, The Columbus Zoo, Box 400, 9990 Riverside Dr., Powell, OH 43065. (614) 645-3426; FAX (614) 645-3465.

This month's cover features the Jaguar (Panthera onca) drawn by Mary Deckert, a docent and Affiliate member of the Los Angeles Zoo AAZK Chapter. The female jaguar was named "Samantha" by her generous adoptive GLAZA (Greater Los Angeles Zoo Assn.) parent. Jaguars range from the southwestern U.S. to Patagonia where they inhabit habitats ranging from jungles and scrubland to shore forests and reed thickets. They maintain a defined territory ranging from 5-25km. They are powerfully built carnivores who swim well but are not especially good climbers. The species has no seasonally restricted breeding season and the female produces a litter of from 2-4 young after a gestation period of 93-110 days. They are sexually mature at three years. Thanks, Mary!

Scoops

and

Scuttlebutt

New Officers Selected for AAZK Board of Directors

At the Syracuse AAZK Conference, AAZK President Frank B. Kohn announced the new officers who will take on their responsibilities beginning 1 January 1990. Oliver Claffey, Metro Toronto Zoo, Toronto, Canada will assume the office of AAZK President and Bob Debets, Assiniboine Park Zoo, Winnipeg, Canada will assume the office of AAZK Vice President. This is the first time in the Association's history we have had Board officers from Canada. The remaining Board members will include: Janet McCoy, Washington Park Zoo, Portland, OR; Frank B. Kohn, National Zoo, Washington, DC; and Ed Hansen, Reid Park Zoo, Tucson, AZ. Ed Hansen is assuming the position held by Brint Spencer, Minnesota Zoological Gardens, who had to resign his Board position effective 31 October 1989 due to a career advancement.

Animal Behavior Society Call for Papers

The Midwest Regional Animal Behavior Society Conference will be held in Columbus, OH 27-29 April, 1990. This meeting is sponsored by the International Society for Endangered Cats (ISEC) and The Ohio State University. The theme of the conference will be "The Role of Animal Behavior Studies in Conservation". Separate paper sessions are planned on captive-oriented and field-oriented animal behavior research relating to conservation and preservation. A general paper session and poster session will also be held, as well as an invited session on Midwest endangered wildlife. Please submit abstracts in any area of animal behavior to: Gail E. Foreman, Ph. D., Director of Research, ISEC, 4628 Winterset Dr., Columbus, OH 43220.

ADT Forms Available Upon Request

Animal Data Transfer Forms for zoos and aquariums are available free of charge upon request. This is a service provided by AAZK. Contact: Bernie Feldman, Burnet Park Zoo, 500 Burnet Park Drive, Syracuse, NY 13204. If your facility is not already using the ADT Form, encourage your administration to implement its use whenever an animal is shipped.

Update of Conference Proceedings

Since AO has heard from a number of people who said they did not have adequate time notification to order their copy of the '89 Syracuse Conference Proceedings, the deadline for ordering has been extended until **25 November 1989**. This will mean that the publication will not be mailed until sometime in December. Please see the September and October issues of *AKF* for the Conference Proceedings Order Form. Prices per copy are \$7.00 for members and \$12.00 for nonmembers.



Editor-in-Chief: Susan Chan
Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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Volume Sixteen
Number Eleven

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Heidi Manicki, Metro Toronto Zoo

An Approach to Zookeeping

Pat Sammarco, Santa Fe Teaching Zoo

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Director of Chapter and Regional Affairs Committee

Bill Whittaker, Toledo Zoological Gardens, Toledo, OH

Individual Regional Coordinators and the states they oversee are listed elsewhere in each issue of AKE.

From the President.....

Frank S. Kohn

At the 1989 National Conference we accomplished much business. With our newly achieved non-profit status as the major issue, we focused on new ways that the Association can become more effective in public education and conservation.

Thanks to the efforts of several members, AAZK has established a Conservation Committee. This group, called CPR (Conservation, Preservation and Restoration) will serve as a clearinghouse to coordinate fundraising activities for the conservation of species and habitats. Chapters that wish to participate in projects adopted by the National AAZK can contact the committee which will give that chapter further details. This way, rather than having many chapters pursuing fundraising efforts independently, we can concentrate our efforts to achieve a greater end product to help our targeted areas.

For instance, the Columbus Zoo and Great Lakes Chapter are coordinating the "Bowling for Rhinos", one of our initial CPR projects. As the committee refines its methods and deals with problems as they arise, other chapters may propose that their projects be adopted as a national effort rather than local one. Chapters may still pursue their own individual projects as well.

Anyone with questions regarding the Conservation Committee should contact Bill Whittaker, Toledo Zoo; Leslie Field, Sacramento Zoo; or Bob Debets, Assiniboine Park Zoo in Winnipeg.

Chapters which are currently involved in a fundraising project should keep an accurate accounting of their finances and report them regularly to our Administrative Offices in Topeka. Any chapter that fails to comply with this requirement may jeopardize their charter. If you have any questions regarding your chapter's financial reporting obligations, contact Barbara Manspeaker.

Similarly any chapter that becomes involved with another agency must contact Administrative offices in Topeka to check out any potential conflicts of interest or legalities which the Board of Directors must address. When you sign an agreement on behalf of your chapter, you represent the entire AAZK organization and you make yourself and all members liable. Please check with Topeka if you have concerns regarding this.

I want to thank Alan Baker and the Burnet Park Zoo AAZK chapter for all their hard work at making this year's conference an overwhelming success. Alan and his crew handled all problems speedily and allowed us to conduct business rapidly and with little or no problems.

We had over sixty first-time conference attendees in Syracuse. I encourage members who have not yet attended a conference to start planning for New Orleans in 1990. I can assure you that you will find the experience enormously beneficial to you and your profession.

At this year's Board Meeting we decided that due to difficulties in reserving hotels for conferences, we would now accept bids to host conferences three years before the date of the conference. Any chapter interested in hosting the 1993 Conference should therefore plan to present materials to the Board within the coming year for a bid at the 1990 Conference in New Orleans. While conference planning is time-consuming, the rewards are great.

Finally, I want to again congratulate Gary Clarke and Andy Lodge, recipients of AAZK National Honorary Lifetime Memberships. Both will be leaving their zoos this year.

Mr. Clarke retires from his position as Director of the Topeka Zoo where for years he has supported AAZK through his backing of zoo keepers and the AAZK offices in Topeka.

Andy leaves the Columbus Zoo after 15 years as a keeper to devote 100% of his time to saving the black rhino and raising funds for the Ngare Sergoi Rhino Sanctuary. This was a very difficult decision for Andy and I know he will stay in close contact with AAZK. On behalf of the Board of Directors and AAZK membership I want to thank Mr. Clarke and Andy and wish them all the best in the coming years.



Births & Hatchings



Philadelphia Zoological Society...the summer months provided a boom in primate, hoofstock, and small mammal births. Primates include: 0.02 Pigmy marmosets (*Cebuella pygmaea*), 0.04 Geoffroy's marmosets (*Callithrix jacchus geoffroyi*) - these births include new bloodlines brought in from Brazil; 1.0 Spectacled langur (*Presbytis obscura*) - this is the first offspring of a recently arrived female from Portland; 0.01 White-handed gibbon (*Hylobates lar*) - this is the seventh offspring of our female. Hoofstock included: 1.0 Springbok (*Antidorcus marsupialis*) - this offspring is from a recently acquired St. Louis female; 1.0 Nilgiri tahr (*Henricus byiocrrus*) - and endangered species, this youngster is being hand-fed while being left with the herd; 1.0 Sable antelope (*Hippotragus niger*), and 2.1 Blesbok (*Damaliscus dorcas*) - each of our females gave birth to a single calf. Small mammal births included: 0.01 Short-tailed leaf-nosed bat (*Carollia perspicillata*) and 0.03 melanistic color phase of Fox squirrel (*Sciurus niger*).

Birds: it was an excellent summer nesting season for waterfowl. Significant births included: 0.017 Hooded merganser (*Mergus cucullatus*), 0.03 Canvasbacks (*Aythya valisineria*) - the first in the history of our zoo; and 0.01 Bronze-winged duck (*Anas specularis*). Outside bird births also included 0.03 Caribbean flamingos - the first such births in several years, perhaps due to a rainy spring. Inside bird births centered on 0.02 Micronesian kingfisher (*Halcyon c. cinnamomina*) - a species that is probably extinct in the wild; 0.01 Sunbittern (*Eurypyga helias*), 0.03 Hermit ibis (*Geronticus eremita*) - a continuation of the success enjoyed by this original U.S. breeding colony; 0.03 Redbilled magpie (*Urocissa erythrorhyncha*), 0.02 Red-rumped green woodpecker (*Venilornis kirkii*), and yet another 0.01 Diamond tanager (*Stephanophorus diadematus*). submitted by Robert Berghaier, Philadelphia Zoo, Philadelphia, PA.

Boston Metro Zoos...important births during the past year have included a Vietnamese pot-bellied pig (*Sus scrofa*). The young piglet survived due to the dedicated efforts of the Children's Zoo staff. The youngster had to be hand-reared since it was not being nursed by the mother. Also born at Children's Zoo was a pair of Ring-tailed lemurs (*Lemur catta*), the first at our zoos in many years. Another significant mammal birth was a Grevy's zebra (*Equus grevyi*), who was sired by our four-year-old, "Frisco". The dame was "Storm", who is on breeding loan from the Bronx Zoo.

Significant hatchings in the Bird Dept. have included 0.02 Hyacinth macaw (*Anodorhynchus hyacinthus*), which unfortunately did not survive. It was a step in the right direction, however, as these were the first hatches of these endangered parrots at our facilities. The hatching of 0.02 Long-tailed glossy starling (*Lamprolornis caudatus*) was significant because they were sired by a 22 year old male! Unfortunately, he died while feeding the fledglings. The first Blue crane (*Anthropoides paradisea*) successfully fledged at our facilities since 1984 was also significant. Due to the egg-breaking behavior of our male, the egg was pulled for artificial incubation. The parents enthusiastically accepted the hatchling when we replaced the dummy egg with it. Other important hatchings were 0.09 Golden pheasant (*Chrysolophus pictus*), 0.01 Eclectus parrot (*Eclectus roratus*), 0.01 Hammerkop (*Scopus umbretta*), and 0.03 Blue-crowned mot-mot (*Motmotus motmota*), which were the first clutch sired by our newly acquired male. submitted by Tom Aversa, Chapter Liaison, Metro Boston Zoos, Boston, MA.

Births & Hatchings, Continued

The Milwaukee County Zoo... would like to announce the following significant acquisitions, births and hatchings from June-August 1989.

We are proud to announce the acquisition of 1.1 Black rhinoceros (*Diceros bicornis minor*). The two rhinos were part of a group of 10 wild-caught *D.b. minor* that were donated to North American zoos by the government of Zimbabwe to develop a new captive propagation program for this subspecies. MCZ is working in conjunction with five other N. American zoos and wildlife ranches to establish an additional gene pool for this subspecies on the strength of the new founder group. Previously, only five *D. b. minor* existed in captivity, all in N. America. Through a carefully managed SSP program, a self-sustaining captive population will be developed and will ultimately restock the original ranges in Africa. Black rhinos once numbered in the hundreds of thousands. Today, there may be fewer than 3000 remaining, with only four of the seven subspecies surviving. Although protected under the Endangered Species Act since 1980 and listed on CITES Appendix I since 1973, the black rhino numbers have decreased drastically mainly due to poaching. The prognosis looks bleak since range fragmentation leaves many rhinos isolated in pockets with no possibility of gene flow from one population to another. Only through protection, game management and eventual reintroduction programs will this animal survive.

MCZ also acquired 1.0 Black rhino (*D. b. michaeli*) which was captive-born in Los Angeles and is on its way to the Riverbanks Zoo. The three-year-old male will remain in Milwaukee until the Riverbanks Zoo develops their rhino facility. This male will soon be joined by a female *D. b. michaeli*, on loan from San Francisco, which will also be going to Riverbanks Zoo.

Since 1987, the MCZ, in conjunction with the Department of Natural Resources, has been engaged in a 10-year effort to reintroduce Trumpeter swans (*Cygnus buccinator*) to Wisconsin. Because of its large size and highly prized skin, the trumpeter swan was hunted extensively in the late 1800's. By the turn of the century the swan had become very rare throughout its range. Full protection for the bird finally came in 1918 from the Migratory Bird Treaty Act. Through protection and strict management, the trumpeter swan population increased dramatically in parts of its former range. This year, 39 eggs (collected by DNR biologists from self-sustaining populations in Alaska) were set in incubators at the zoo and 38 eggs hatched. Nine eggs were received from game farm sources and all nine hatched. All of the eggs hatched in late June and nineteen of the cygnets were sent to a marsh site near the Mississippi River when they were 3-5 days old. These birds will migrate this fall. The remainder of the swans were moved to wintering sites in Dane and Waukesha counties of Wisconsin at five weeks of age. These birds will remain until they are 23 months old and then will be released into the wild at remote Wisconsin lakes. The goal of the reintroduction program in Wisconsin is to attain a self-sustaining, migratory population of at least 20 breeding pairs by the year 2000.

Our primate division announced the birth of 1.0 Mandrill (*Papio sphinx*) on 10 July 1989. This is the 10th mandrill born at the zoo in the last five years. The mother, Flora, is a captive-born ten-year-old who came to MCZ along with her half-sister, Fauna, from Toronto in 1981. The father, Earl, also 10 years old, came to Milwaukee that same year from Omaha, NE. The troop consists of the adult male, the two adult females, an adolescent male and the new baby. The births always occurred at night, with the mother and the new baby remaining in the group at all times. This simulates the natural social grouping of mandrills, although groups in the wild may number up to 50 individuals. Mandrills inhabit the tropical forests in the Cameroons and Gabon. They were actively hunted because they caused considerable damage to crops, and thus their numbers decreased drastically. Now they are classified as endangered and listed on CITES Appendix I. However, mandrills have bred very successfully in captivity. *submitted by Karin Newman, Chapter Liaison, Milwaukee County zoo, Milwaukee, WI.*

San Diego Zoo... on 31 August, Lena, a rare Masai giraffe (*Giraffa camelopardalis tippelskirchi*) delivered the first calf of this subspecies to be born at the Zoo. The 7 p.m.

Births & Hatchings. Continued

birth was observed and applauded by zoo visitors. As is normal in giraffes, Lena delivered the young female, Jean, while standing. Despite this six-foot fall into the world, and a subsequent fall into the moat, Jean is in excellent health. Although this is Lena's first-born, she is proving to be an attentive mother. Jean is the 35th giraffe born at the Zoo and the 77th born in the Zoological Society of San Diego.

On 16 August, three Gordon's Arabian wildcat (*Felis silvestris gordonii*) kittens were born. They are the first of this species born in the Western Hemisphere. Their parents were received in May as part of a cooperative breeding program with the International Society for Endangered Cats (ISEC) and the zoo in Abu Dhabi, United Arab Emirates. The status of these rare cats is unknown. Prior to the births, there were known to be at least 18 in captivity. from *The Keeper*, newsletter of the San Diego AAZK Chapter, Oct.-Nov. 1989.

Zoo Atlanta...the Bird Dept. is proud to report significant hatchings January - September 1989: 1.1 Black-necked swan (*Cygnus melanocoryphus*), 0.0.8 (1 DNS) Hammerkops (*Scopus umbretta*) - these are from wild-caught parents; 2.1 White-faced whistling duck (*Dendrocygna viduata*) - for over four years no success at breeding in duck pond area, yet within the first month of being placed in new, larger exhibit with more shrubs and tall grasses, three nests were found; 0.0.1 Green fruit pigeon (*Tieron australis*) - Zoo Atlanta is the only zoo currently listing these birds with ISIS; 0.0.4 Grey hornbills (*Tockus nasutus*) - within days after hatching, 1.0 parent bird died, moved 0.1 parent with nestbox to facilitate hand-feeding, also placed 1.0 offspring from previous year's hatch to help feed and were very successful and 0.0.4 chicks fledged; 0.0.8 Bahama pintail (*Anas bahamensis bahamensis*) - with 0.0.1 silver phase in brood, unfortunately none survived; 0.0.3 Black crakes (*Limnecorax flavirostra*); 0.0.4 (2 DNS) Hadada ibis (*Hagedashia hagedash*); 0.0.5 (2 DNS) Chilean flamingos (*Phoenicopterus chilensis*) - this was their first year attempt at breeding and only their second year at Zoo Atlanta, they produced 16 eggs with 12 fertile. A greater hatching percentage would have been achieved if nesting had not been disrupted during rescue of 0.0.2 chicks from severe aggressions by adult birds, all hatchlings were parent-reared. submitted by Emma Woods, Keeper, Zoo Atlanta

Another notable birth was our third Western lowland gorilla (*Gorilla gorilla gorilla*) born this year. On 20 July a male was born to Shamba, a 30-year-old wild-born gorilla. This was her fifth birth. The infant was born while the social group of 1.2 was in their night quarters. This birth brings the total of 17 gorillas at the zoo, 16 of them are on a permanent loan from the Yerkes Regional Primate Research Center of Emory University. All three infants are being cared for by their mothers within their social groups in the new Ford African Rain Forest. submitted by Lisa Hughes, Chapter Liaison, Zoo Atlanta AAZK Chapter, Atlanta, GA.



AAZK Announces New Professional Members

Martha Turnbull, Roger Williams Prk Zoo (RI)
Nora Larkin, Catocin Mt. Zoo (MD)
Alicia Wade, Zoo Atlanta (GA)
David Daeumler, Dreher Prk Zoo (FL)
Marie Krchak, Birmingham Zoo (AL)
Patrick Callahan, Cincinnati Zoo (OH)
Christopher Dufour, Mesker Prk Zoo (IN)
John M. Grey, Henson Robinson Zoo (IL)
Tamara A. Jones, Dallas Zoo (TX)
Mark Freeland, San Diego Zoo (CA)

Lisa Mielke, Bronx Zoo (NY)
Paul D'Antonio, Zoo Atlanta, GA
Thomas Ohlson, Lion Country Safari (FL)
Wendy Joyce, Lion Country Safari (FL)
W. Heath Borders, Columbus Zoo (OH)
Paula Reiss, Indianapolis Zoo (IN)
Blair Rumble, Como Zoo (MN)
Michael Marvin, Henson Robinson Zoo
Pamela Hill, Arizona-Sonora DM (AZ)
Deborah Bartens, Palo Alto Jr. Museum
and Zoo (CA)

Donna-Mae G. Butcher, Emperor Valley Zoo, Trinidad, West Indies

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Steve H. Taylor, Director, Cleveland Metroparks Zoo, Cleveland, OH





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MEMO:

TO: All AAZK Members

FROM: Bill Whittaker, Director of Regional and Chapter Affairs

RE: Recap of CRAC Activities at National Conference

The National Conference was a very productive event for the Regional/Chapter System and AAZK. So much was accomplished that I can't present it all here but I will mention some of the highlights

- The appointment of Colleen Kinzley and Nanci Pintavalli to the Chapter and Regional Affairs Committee (CRAC)
- The appointment of six new Regional Coordinators
- The establishment of a two-year term for the RC positions
- Establishment of new guidelines and forms for RCs that will clarify and expedite their duties
- Evaluation of integration potential of the Nominations and Election Committee with CRAC
- Changing the Chapter Liaison selection process from elected to appointed on an annual basis by the RC with recommendation by the Chapter Board required. The change is to be effective at the end of current Chapter Liaison terms.
- Revision of Chapter formation guidelines
- Drafting by-law revisions defining financial protocol and enforcement procedures
- Drafting by-laws to protect AAZK from financial loss
- Approval of a proposal that the Greater San Francisco Bay Area Chapter's Ecosystem Survival Plan Project (ESP) become a national project.
- Creation of a National Conservation, Preservation, Restoration (CPR) Committee

It was decided that the Zookeeper Survey will begin after Frank Kohn has notified all zoo directors of our intention to conduct the survey.

"Bowling for Rhinos" is proceeding as planned. For information contact Nanci Pintavalli, Columbus Zoo at (614) 645-3400, Home (614) 766-6475.

A proposal for the creation of an AAZK Ethics Committee was submitted to the Board of Directors. Several recent incidents emphasize the need to address this issue.

More in the next AKF.



Legislative Outlook

By

John Stoddard
AAZK Legislative Advisor
Brookfield Zoo, Brookfield, IL



TED update

On 5 September the Department of Commerce announced that the on-again-off-again regulations requiring commercial shrimp fishers to add Turtle Excluder Devices (TEDs) to their trawling nets at certain times of the year would be enforced effective 8 September 1989. The decision was announced before the expiration of a temporary rule issued by Commerce which had allowed shrimpers to limit their trawl times as an alternative to using TEDs while the issue was studied. Further evaluations by Commerce Department scientists showed that even full compliance with the recommended trawl times would result in unacceptably higher turtle mortalities than would full compliance with TED regulations.

Shrimpers, understandably, are not in favor of the regulations that they believe may reduce their catch by 10 to 30 percent and drive many out of business. Environmentalists argue that the loss of yield will not be anywhere near that high and that increasing competition from imported shrimp will cause more economic damage than TEDs. An estimated 11,000 sea turtles, including members of five species that are considered endangered, will be saved each year if TEDs are used.

The current regulations affect shrimpers trawling in offshore waters; next year the regulations will be expanded to include inshore trawling.

>From AAZPA Legislative Committee and the Chicago Tribune (25 Sept. 1989)

USDA bans importation of ratites

Effective 15 August the USDA published an interim rule prohibiting, until further notice, the importation into the United States of any ratites, including ostriches, cassowaries, emus and rheas. USDA believes this action to be necessary to prevent the introduction and dissemination of ectoparasites that could spread heartwater and East Coast Fever, two exotic and highly morbid livestock diseases that do not currently exist in the U.S.

The ban is a result of recent discoveries of African Bont ticks and Bont-legged ticks on imported adult ostriches in Ohio, Oklahoma, and Texas. These ticks are known to transmit heartwater and East Coast Fever although, apparently, none of the ticks in question were infected. The two diseases can affect cattle, goats, sheep, and other ruminants.

This rule affects only importation of ratites and not the sale or transport of domestically raised stock. There are currently an estimated 5,000 ostriches being raised commercially in the U.S., owned by between 500 and 1000 persons or businesses.

The USDA rejected a proposal to allow importation of ratites only after treatment with a pesticide to destroy any ectoparasites as an alternative to the ban since the effectiveness is not currently known. Also under study is the possibility that parasite-free ratites harboring heartwater and East Coast Fever may be capable of spreading the diseases through subsequent infestations with domestic ectoparasites.

>From AAZPA Legislative Committee

U.S. issues rule barring ocean disposal of plastics

The U.S. Coast Guard, in April, issued regulations prohibiting vessels at sea or in the navigable U.S. waters from dumping plastic debris. The new rules implement a 1987 law passed by Congress that itself implements a key provision of an international treaty negotiated in 1983. That provision, known as MARPOL Annex V, came into legal force at the end of 1987 when the U.S. ratified it.

A key section of the new regulations requires ports and terminals to provide adequate facilities to receive garbage from vessels. Because it is difficult to police boats at sea, it is hoped that making it easier to discharge waste legally will increase voluntary compliance. The new rule covers more than 10,000 ports and approximately 9 million commercial and private recreational vehicles.

>*From Environmental Defense Fund letter (Aug. 1989)*



Book Review

Orphans of the Wild

By Vivian J. Wilson

Wolfe Publishing Co., Inc. 1988

Prescott, AZ 86301

Hardcover, xvi, 238 pp. \$22.50

*Review by Gabrielle Henson
AAZK Associate Member
Glendale Heights, IL.*

Orphans of the Wild is the story of Vivian Wilson's life-long work with the animals of Africa. Born in South Africa, Wilson was one of those kids who was always bringing home bird eggs and snakes. Early on, he made a list of goals he wished to accomplish in his life - to work as a ranger in one of Africa's great National Parks, to work as a museum biologist, to study wildlife in the Antarctic region, and to establish a wildlife orphanage. Despite a lack of education beyond the high school level, Wilson managed to achieve all his goals through an inspiring combination of persistence, hard work, and good luck. His wildlife orphanage, Chipangali Wildlife Orphanage in Zimbabwe, is at the heart of the story and gives the book its title.

The book consists of a fairly loosely connected series of anecdotes about the many animals Wilson met on the way to accomplishing his goals. Some of his attitudes will strike readers as rather old-fashioned--there is a sad story of a leopard who is destroyed after mauling the arm of an employee foolish enough to stick his hand into the cat's cage--but it is clear that Wilson loves his animals.

Early in his career as a ranger, Wilson had a number of bad experiences with the release of hand-reared animals in the National Parks. Frequently the animals were ill-prepared

Book Review. *Continued*

for the return to the wild, not knowing how to find food or to socialize with their own species, and the result was too often death. Wilson's sadness over the incidents made him determined to set up his orphanage for the many animals who have been orphaned by hunters, animals who have suffered some type of accident, and the former pets of people living in the area. This last category seems to bring in a large proportion of the animals; apparently it is quite common in Africa for people to keep such unsuitable pets as baboons, giraffes, and leopards. When the inevitable happens and the wild instincts of the 'pet' can no longer be controlled, the animals get dumped at the Chipangali Orphanage. Wilson has managed to return a number of monkeys, jackals, birds, and other animals to the wild by providing feeding and social conditions as close to nature as possible within the animals' cages prior to release. However, in most cases, since he rarely turns an orphan away, Wilson has neither the time nor the funds to do the difficult work of rehabilitating hand-reared 'pets'.

Readers probably will not learn anything new about animals from this book, but it is an enjoyable story of a man trying to do good work against enormous odds. It is beautifully illustrated, mostly with the author's own photographs. Anyone who enjoyed Marlin Perkins' My Wild Kingdom, of which this book is strongly reminiscent, will enjoy Orphans of the Wild.



Information Please

College student writing paper for a nutrition class is looking for any info on nutrition and nutritionally-related diseases of large constrictors (primarily boas and pythons). Anything would be appreciated. Please send to: Lisa Saabye, 178c Central Ave., Dover, NH 03824.

Anyone having information on hummingbirds of various species, please send any and all data possible. This aviary houses a large population of hummingbirds, and a physiological problem remains a mystery: digestive trauma. Also, any information regarding feed, breeding (all aspects), nesting would be greatly appreciated. This aviary exists in Japan and requires as much information as possible. Please send to: Maureen Anderson, c/o Valley Zoo, 134 Buena Vista Rd., Edmonton, Alberta, Canada T5G 2R7.

I am interested in the maintenance of *Camelus dromedarius* in zoos. Any information concerning exhibit design, substrate, barriers, vegetation, structures with which the camel interacts would be of help. Please address letters to: Susan Craig, Mammal Keeper, Metro Parks Zoo-Boston, Franklin Park, Pierpont Rd., Boston, MA 02121.

Conference '89.....
a final word



Over 230 participants (from over 90 zoos, aquariums and other animal-care facilities) and from all over the U.S., Canada, Australia and the United Kingdom attended the 15th Annual AAZK Conference in Syracuse, NY October 1-5. A post-conference trip to Buffalo and Niagara Falls was enjoyed by a handful of conferees.

The paper sessions were informative with numerous husbandry presentations and a disturbing Ngare Sergoi Update. Everyone seemed to enjoy the variety and endless supply of rap sessions, meetings, hospitality suites, tours, workshops, committees, and just catching up on information of mutual concerns.

The trip to Ross Park Zoo in Binghamton, NY offered us the lovely colors of autumn combined with the generous hospitality of the zoo's staff for tours and the Zoolympics. The brisk weather and creative events brought a feeling of esprit de corps to the delegates. A fun time was had by all.

A great deal of work was accomplished at the Board Meetings. Several issues and resolutions were talked about and voted upon at the General Membership Meeting held at the Burnet Park Zoo.

The Fecal Identification Contest, a totally new concept for having fun at a Conference, received national and international media coverage, much to our surprise! This unique contest was created and implemented entirely by Tom LaBarge.

The post-conference trip to Buffalo and Niagara Falls provided a good tour of the Buffalo Zoo, viewing of both the Canadian and American sides of the Falls and a tour of the Aquarium of Niagara Falls.

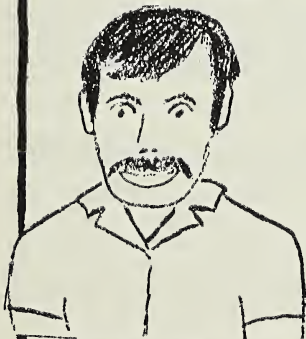
We sped through a week of action-filled days and short nights. We didn't want to miss a moment. Considering how long it took to plan the Conference and get the details worked out, it is hard to believe that is now a memory. The Burnet Park Zoo Chapter of AAZK thanks everyone who came to Syracuse. You made all our efforts worthwhile. Let's now turn our attention to the New Orleans AAZK Chapter and the southern hospitality they'll provide us in 1990!

*--- 15th Annual AAZK Conference Committee and
all members of the Burnet Park Zoo AAZK Chapter*

**ZOO
DAYS**

THE ADVENTURES OF A
CONFERENCE PLANNING
COMMITTEE

Syracuse ---
THE HEART OF UPSTATE NEW YORK
THE Burnet Park AAZK Chapter



Syracuse Conference Spawns AAZK National Conservation Committee

The growing awareness in our profession of the urgent need to get involved in conservation culminated at the 15th National Conference in Syracuse with the issuance of the following statement:

The Statement of Purpose of the American Association of Zoo Keepers, Inc. states:

- Section 1 To educate and assist zoological personnel in their roles as animal caretakers, public educators, scientific researchers, wildlife conservationists and to promote their respective zoological institutions as cultural establishments, dedicated to the enrichment of human and natural resources.
- Section 2 To support and publicize all valid and deserving projects of conservation and to do our part in educating the general public to the need for worthwhile projects of preserving our natural resources and animal life.

Currently two local chapter projects - the Ecosystem Survival Plan (ESP) at the Greater San Francisco Bay Area Chapter, and "Bowling for Rhinos" at the Columbus and Toledo Chapters - have become so successful that they need to be expanded to be included at the national level in order to maximize their potential.

Both Chapters have approached the Board of Directors for their assistance. The Board recommended that representatives from both projects as well as a representative from the Board form an *ad hoc* committee to develop a national AAZK conservation strategy.

The *ad hoc* committee recommended the use of "Conservation, Preservation, Restoration" (CPR) to appropriately name this committee. The CPR Committee will consist of seven members: The Vice-President of the national Board will be the Chair of the Committee and he/she will appoint six additional members. The CPR Committee will be under the oversight of the AAZK President.

The six members will be divided into two subcommittees of three members each. One subcommittee will be concerned with habitat - The Habitat Subcommittee's first project this year will be ESP's support of the Guanacaste National Park in Costa Rica. The other will be concerned with species - the Save Our Species (SOS) subcommittee, whose project this year is "Bowling for Rhinos".

Currently two positions on each subcommittee have been appointed by the chair because of their involvement with these projects. The chair is now seeking two professional AAZK members interested in filling the two remaining vacancies. Preference will be given to individuals with past involvements with conservation projects.

The creation of this committee is the result of many exhausting hours of brain-storming by the people involved. It is your committee and we believe it is a milestone in the evolution of AAZK. We urge all our members to get involved. You can contact:

Bob Debets, Chair CPR Committee
Assiniboine Park Zoo
2355 Corydon Ave.
Winnipeg, Manitoba, Canada R3P 0R5
Telephone: Zoo (204) 986-4040 Home (204) 837-1635

AAZK Conservation Committee, Continued

Habitat Subcommittee

Norman Gershenz
San Francisco Zoo
Sloat Blvd. at the Pacific Ocean
San Francisco, CA 94132
Telephone: Zoo (415) 661-2023

Leslie Field
Sacramento Zoo
3930 Wiland Park Drive
Sacramento, CA 95822
Telephone: (916) 449-5013

SOS

Bill Whittaker
Toledo Zoo
2700 Broadway
Toledo, OH 43609
Telephone: Zoo (419) 385-5721
Home (419) 877-0681

Nancy Pintavalli
5903 Augry Rd., Apt. B
Amlin, OH 43002
Telephone: Work (614) 645-4300
Home (614) 766-6475



Public Education Committee

In the June '89 issue of *AAZK*, the Public Education Committee solicited answers from the membership to questions frequently asked by zoo visitors. The committee is seeking the "best" answers to such questions to incorporate in a booklet. The following is the eighth question restated and the "best" answer to that question. Another frequently asked question will appear at the end of the article -- please take a few minutes and put your thoughts together and send them to Ellen Bradfield at the address given below.

Question #8 was:

Why do animals pace?

The answer to Question #8 is:

In the wild many animals spend a lot of time looking for food and patrolling the boundaries of their territory. In zoos this innate compulsion to be on the move continues. Since a zoo's enclosure is smaller than an animal's wild territory, the animal will repeat its pattern of movement resulting in "pacing". People pace when excited, and so this is also a way to relieve energies. (Thanks to Renee Schlisky and Mona Keith)

Question #9 will be:

Do wild animals make good pets?

Please send any answers, comments or suggestions to: Ms. Ellen Bradfield, Zoo Atlanta
AAZK, 800 Cherokee Ave. S.E., Atlanta, GA 30318.



OVERVIEW OF THE 1989 AAZK BOARD OF DIRECTORS MEETING

Submitted by

Susan D. Chan, Editor Animal Keepers' Forum
and Frank B. Kohn, AAZK President

The meeting was called to order on 30 September 1989 at 9:15 a.m. by President Frank B. Kohn. Board Members present were: Frank Kohn, Oliver Claffey, Bob Debets and Brint Spencer. Fifth Board Member, Susan Barnard was unable to attend. Incoming Board Member Janet McCoy who assumes office 1 January 1990 was also present. Board Member Brint Spencer has resigned effective 31 October 1989 and his replacement, Ed Hansen, was also in attendance. AKF editor Susan Chan served as recording secretary in the absence of AAZK Administrative Secretary Barbara Manspeaker. The Board of Directors met in closed executive session on 30 September and held open Board meetings to which all members were invited on 1 October 1989. All current (except S. Barnard) and incoming Board Members were present during the open meeting.

Administrative Offices - report submitted by Barbara Manspeaker

It was reported that as of 31 July 1989 we had 2,645 members. This is an increase of 262 members over what was reported last year at conference time. Since the membership fees increase approved earlier this year went into effect on 1 September, our financial situation is improving. The bulk of the Association's income is still from membership fees, and we should seek other sources of funding in order to keep the Association moving forward with its many projects and committees.

The financial statement was submitted to the Board. Total revenues from 1 January-31 July 1989 were \$49,071.43 while expenditures for the same period totaled \$48,290.26. Of the total of the revenue side, \$34,265.00 had been received from membership fees. Barbara noted that having line items set up for all projects and committees allows the Association to keep better track of where its money is being spent.

The necessary forms for AAZK's application for a non-profit status with the Internal Revenue Service were submitted on 19 June 1989. Although we had been advised by our lawyer that this might well be a lengthy process, we were pleased and excited to receive our IRS determination letter on 1 September 1989 granting AAZK a 501 (c) (3) tax status. The Administrative Offices (AO) staff will now complete the necessary applications with the U.S. Postal Service in order to be granted new non-profit mailing rates which should result in a fairly substantial savings. Our new tax status will now allow us to apply for grants and the Board will be seeking an experienced individual to assist AAZK in writing grant proposals.

During Board discussions on AO matters, the potential problem of just what kind of facilities are granted Institutional Membership was discussed. It was decided to establish a set of guidelines for acceptance of institutional memberships. This was done in order to protect the Association from an institution or facility not meeting AAZK criteria for animal care and ethics and from using their AAZK membership as an endorsement of their practices. Ollie, Frank and Barbara will work on putting together a standardized application form for those seeking institutional membership which may include the requirement of references being provided by the applying institution. A target date for completion of this form was set at 1 January 1990 with implementation to begin immediately thereafter.

The Board also requested the AO staff to check into the necessary software programs to make their Macintosh computers IBM-compatible. Several By-law changes were discussed and will be covered under the By-laws Report of these minutes.

Overview of '89 Board of Directors Meeting. *Continued*

A \$500 annual budget was approved for the President of AAZK with an additional \$500 budget for remaining Directors. As approved in 1987, it was decided to continue the funding of the AAZK President to attend the annual AAZPA Conference as the Association's representative; and to fund the expenses of the AAZK staff to attend our national conference. The Board approved a 75 cent per hour increase in wages for Susan Chan and Barbara Manspeaker. Although the Board had hoped the Association would be in a financial position to offer some type of retirement plan to its employees, the current financial status does not allow for such a plan. The Board will continue to explore options for providing some type of benefits for AAZK employees.

Animal Keepers' Forum - report submitted by Susan Chan

Susan reported that 1989 marked the 16th year of continuous publication for *AKF*. The journal averaged 36 pages per issue during 1989 with the exception of the last December Proceedings issue which ran 152 pages. As announced in that issue, the Conference Proceedings will be a separate publication beginning with the 15th National Conference in Syracuse.

It was reported that response from members on the submission of articles continues to be excellent. Unfortunately this has produced quite a backlog of articles awaiting publication. Because AAZK's budgetary restraints can allow for only an average 36-page issue each month, some authors have had to wait several months before seeing their submissions published. *AKF* has utilized more photographs during the past year which have served to enhance the publication. Susan encouraged authors to submit photographs with their manuscripts. The use of a computer desktop publishing system continues to improve the overall format of the journal.

Susan reported that Chapter Liaison/Chapters have been very good about sending in Chapter News items and that this column has run monthly. The Book Review Committee, under Rick Emmer, has provided reviews for most issues and a backlog of reviews awaits publication. John Stoddard continues to keep members abreast of legislative and environmental concerns through the Legislative Update column. We continue to publish the names of new professional members each month as well as those of new and renewing contributing members.

A review system for technical and/or research articles submitted is still in the process of being implemented. Board members Susan Barnard and Brint Spencer are working on setting up this review process.

The B&H column continues to improve, not only with the addition of more photos than previously used, but also with better information about why a particular B&H is significant either to their particular institution or the zoological community as a whole. We have run more conservation-oriented material this year including a World Wildlife Fund postcard which we encouraged members to return to the House Appropriations Committee to push for full approval of the budget for the African Elephant Conservation Act.

Thanks to Pam Talbot and Judie Steenberg of the Woodland Park Zoo, we now have a Comprehensive Animal Index of *AKF* for the years 1974-86 as well as comprehensive all-inclusive indexes for the years 1987 and 1988. Pam is compiling the 1989 index and we hope to be able to publish it in either the December 1989 or January 1990 edition of the journal. Susan encouraged all project and committee heads to submit at least an annual update on their progress for *AKF* publication in order to keep the membership apprised of what is happening with these committees/projects.

Comments on other publications: the *Zookeeping as a Career* brochure remains a popular item for spreading word about both zookeeping and AAZK. The Public Education Committee has revised the text and collected new photographs and the revised edition should be printed in early 1990. *The AAZK Membership Directory* will again be published in the summer of 1990. It is published every two years. Members are encouraged to return their Directory Information Cards as soon as they receive them this spring to insure that

Overview of '89 Board of Directors Meeting. Continued

they will be included in the new directory. Because of the expense in printing the directory, AO staff will seek alternate avenues of both publication format and sources of funding. Professionals will continue to receive the directory as part of their membership package and it will be available to other membership categories for a nominal fee. Delegates were asked to consider whether a chapter might be able to take the directory on as a chapter project. *Conference Proceedings* - due to a misunderstanding with the '89 Conference Committee, the price of receiving the Syracuse proceedings was not built into the registration fee and thus, conference delegates and those not attending, were required to pay an additional fee to receive the publication. The 1990 New Orleans Committee has been advised that they will need to build a \$5.00 conference proceeding fee into their registration fee so that next year all those registering for the conference will receive the proceedings. It will also be available to others for a slightly higher fee.

AAZK Diet Notebook-Mammals Vol I and Future Volumes - report submitted by Susan Bunn Spencer

Volume I was published in time for the 1988 National Conference. Since that time through 31 July 1989, 233 books have been sold. The initial printing for Volume I was underwritten by the Assiniboine Park Zoo AAZK Chapter, Winnipeg, Manitoba, Canada. From 1 January through 31 July 1989 revenue for this publication was \$5,933.90 with expenses listed at \$2,036.85.

During 1989 collection of response forms and processing of data for upcoming volumes has continued. The close for submissions for Mammals II and Birds is 1 January 1990, although submissions after that date will be utilized for periodic updates. Presently we have about 200 mammal diets and a similar number for birds. A new mailing of the response forms has been completed by Kelli Westbrook for the bird section and Susan Kenney for the invertebrate section. The response forms are being sent to the curators in hopes this will encourage them to authorize the inclusion of their zoo's diets in the Diet Notebook. The response form's title has been changed to "AAZK Animal Diet Notebook Response Form", deleting the word "Keeper" in order to encourage those other than keepers to fill them out.

Susan is in correspondence with the AAZPA Nutrition Committee and ISIS officials in order to gain support for this project and to coordinate data gathering in a manner useful for the zoological community. She has submitted copies of Mammals Volume I to the following publications for review: AAZPA, Journal of Mammalogy, Journal of Primatology, Zoo Biology and the American Association of Zoo Veterinarians. To date AAZPA has run a very favorable review on the publication.

Goals of this project for 1990 include: preparation of the Mammals Volume II edition; preparation of the Bird Section of the Diet Notebook; and assemblage of the Appendix Section. New Section Coordinators are being sought for Herps and Fish. A budget request of \$725.00 was approved for 1990.

Biological Values for Selected Mammals III - no report submitted

Project chair Toni Danzig was not present to report. Leslie Field of the Greater San Francisco Bay Area AAZK Chapter, originators and compilers of this publication, reported that this third edition is in its final editing stages and artwork has been completed. It was decided to attempt to reformat this publication into a notebook form for ease of additions. AO staff will be working with GSFBA Chapter to accomplish this. No publication date has yet been determined but it is hoped to have this useful reference work available to the membership in early 1990. It was noted that this would be an excellent project for an individual AAZK Chapter to underwrite as a contribution towards the growth and professionalism of the Association. The GSFBA Chapter has been generously meeting incidental expenses for the production of this edition and no budget was requested from AAZK.

Overview of '89 Board of Directors Meeting, Continued

Zoonotic Diseases Handbook, 2nd Edition - report submitted by Bruce Clark and Susan Chan

The Second Edition of the *Zoonotic Diseases Handbook* is currently being formatted by Susan Chan. All of the review, updating and additions have been completed by editor Bruce Clark of the Toledo Zoo. Bruce has also furnished original artwork for the publication. The 2nd edition will be published in *AKF*-sized format and has been translated to a text version rather than the chart form found in the first edition. It was felt this format made for much easier reference by the user. Underwriting for this publication will be sought from veterinary supply and/or medical supply companies. An early 1990 publication date is anticipated. Since the production portion of this project has been completed, no budget request was presented.

Book Review Coordinator - report submitted by Rick Emmer

By providing the readership of *AKF* with reviews of a variety of books, journals and other publications relevant to the profession of zoo keeping, the Book Review Committee hopes to: 1) acquaint the reader with interesting, informative and potentially useful literature; 2) assist the reader in deciding whether or not to obtain the reviewed material; and 3) provide the information required to obtain that material. A good backlog of reviews for publication is presently available and more books are currently out for review. Although not always a monthly feature of *AKF*, every effort is made to publish reviews as space permits. The Board instructed Susan Chan to work with Rick Emmer on contacting publishers about placing advertisements in *AKF* and also to consider selling books at AAZK Conferences. A budget of \$20.00 was approved to cover cost of correspondence relating to this committee.

An Approach to Zookeeping - report submitted by Pat Sammarco

This book, begun in 1983, is intended to present the basics of zookeeping and not to be an all-encompassing reference to specific care of individual taxons. Pat reported on the sections of the text which have been completed and on those needing further refinement and editing. Susan Bunn Spencer has volunteered to write a section on children's zoos to be included in the volume. The Board suggested that Pat solicit the assistance of other AAZK members to help in they final editing. Pat will be communicating with several publishers for advice on how to proceed towards publication and funding will be sought from sources outside the Association, possibly through a grant. The Board requested a progress timeline be drawn up to insure that the book will be published within the next three years. A budget of \$50.00 was approved to meet the project's expenses during 1990.

Zoo Infant Development Project - report submitted by Harmony Frazier-Taylor

Formerly called the "Handbook of Mother-Reared Infants" this project not only underwent a name change this year, but also was taken over by a new project head in March 1989. Harmony reported that after discussing the project with her local AAZK Chapter (Puget Sound) and the Woodland Park Zoo administration, she found support for the project to be good. The zoo has given Harmony work time to devote to the project and the Chapter has purchased a computer and printer for data entry. Additionally the zoo has provided office space for the Chapter and the Infant Development Project. Harmony attendanced the conference and presented a paper on the progress of this project and distributed the data collection forms. The forms also include a release form for the institution providing the data. It was stressed that it is important for AAZK to make zoo administrators aware of projects such as this and the fact that materials gathered from their facilities will be published.

Goals for 1990 include: 1) establishing a network of individuals to assist in data form collection; 2) update data collection form by listing all fields which are to appear on computer; 3) have Puget Sound Chapter begin retrieval of information from keeper reports and records and input this data; and 4) begin data entry from forms received by the end of 1990.

Overview of '89 Board of Directors Meeting. Continued

Since expenses for the project are being met by the Puget Sound Chapter and the Woodland Park Zoo, no budget was requested. Major printing costs may be handled by the Puget Sound Chapter as their contribution to AAZK.

AAZK Manual of Resources--report submitted by Elandra Aum

Formerly called the Chapter Liaison Packet, the Manual has expanded its scope so as to be useful to individual AAZK members as well as Chapters and Liaisons. The manual covers all aspects of AAZK including history, publications, governing body, projects and committees, chapter formation, by-laws and constitutional requirements, etc. Also included are order forms for the various publications and AAZK products, samples of data collection forms, and the various reporting and financial forms used by chapters.

It was decided that each AAZK Chapter would receive a copy of the manual (text and forms) and that the cost of the packet would be built into the chapter's chartering or renewal fee. Other interested individuals may purchase either the text, the forms or a manual containing both at a cost set to cover the expenses of AAZK in re producing the material. If this individual succeeded in forming a chapter within one year's time, a rebate on a portion of the the cost of the manual would be considered. It was further determined that the text of the manual would be kept on computer disc for ease of updating and revision. The forms will remain as hard copy. A budget of \$75.00 was approved to cover project mailing, telephone and printing expenses for 1990.

International Affairs Coordinators - reports submitted by Pam McDougall (west) and Lisa Bauer Saban (east)

It is the responsibility of the International Affairs Coordinators to keep in communication with our sister zookeeping organizations abroad, to coordinate activities of the Foreign Keeper Sponsorship Program, and to communicate with our overseas members. We currently have 76 international members including 16 sponsored keepers, most of whom are in India. Chapters and/or AAZK members currently sponsoring a foreign keeper include: Tucson, Atlanta, Rocky Mt., Flint Hills, Brookfield, Metro Toronto, Assiniboine Park, San Diego, Puget Sound, Greater San Francisco Bay Area and Chinook Chapters; Judie Steenberg, Susan Barnard, Melba Brown, Nancy Hanson and Art Cooper. The IACs still have a list of foreign keepers available for sponsorship for chapters or individuals who are interested.

Following the resignation of Lisa Bauer Saban, Mona Keith of the Calgary Zoo was appointed IAC-east. A budget of \$100 was approved for IAC.

Nominations & Elections--report submitted by Rachel Rogers

Two new members of the AAZK Board of Directors were elected in 1989 from a field of six candidates. Elected were: Janet McCoy, Washington Park Zoo and Brint Spencer, Minnesota Zoo (reelected). Brint, due to a career advancement, resigned his position effective 31 October 1989 and was replaced by Ed Hansen, Reid Park Zoo, who had the next highest ballot count in the 1989 election. A total of 1299 ballots were sent out to AAZK professional members; 379 were returned and counted. Due to the groundwork laid by former NEC chair Jan McCoy and refinement by Rachel, this committee now has a comprehensive handbook which outlines how the NEC works, contains appropriate forms and letter samples, etc. for the new NEC chair for the 1991 election. Rachel noted the need to appoint a new NEC chair and reactivate the committee early in 1990 to allow time to prepare for the 1991 election. David Luce, Fresno Zoo, has been appointed new NEC chair. Rachel noted two possible by-laws revisions for the NEC which will need to be added: 1) a provision allowing for a professional member to be able to vote in a Board election if they are out of the country during the election period; 2) an amendment stating that all members of the NEC committee must be professional AAZK members. A budget of \$500.00 was approved for the 1991 election year and a nominal budget of \$25.00 was approved for 1990 to cover postage expenses.

Overview of '89 Board of Directors Meeting. *Continued*

By-laws Review Committee-report submitted by Marilyn Cole

Because a thorough review and revision of the Association's By-laws was undertaken in 1988, the committee was not active during 1989. It was recommended that further review take place during 1990 as a number of matters came up during the year and at the Syracuse Conference which will require By-law revisions. Included among these are: 1) changes concerning NEC previously noted; 2) revision concerning Chapter's responsibility for accurate financial reporting to AO and enforcement procedure for this; 3) proposed revision to fund expenses of AAZK President to attend AAZK National Conference; 4) amendment concerning what happens to chapter funds upon dissolution of a chapter; 5) amendment concerning need for Board approval before a chapter signs any contractual agreements with an outside agency; 6) amendment requiring chapter treasurers to be bonded. Other revisions and/or amendments may be presented to the By-laws Review Committee as necessary. It was suggested that following a review and proposal from the BRC, a mailing be done to the voting membership so that these necessary changes will be completed quickly and will not have to wait until the 1990 National Conference in New Orleans. A budget of \$25.00 to cover postage was approved. Expenses for a special By-laws mailing, if it is done, will be handled through AO.

Regional Coordinator/Chapter Affairs Committee--report submitted by Bill Whittaker

There have been many changes in the Regional Coordinator/Chapter Affairs System since January of 1989. The regions have been divided to reflect geographic differences (i.e coastal, mountain, etc.); the number of RCs for each region has been expanded from one to as many RCs as it takes to adequately cover a region; reporting forms for RCs and Chapter Liaisons have been designed and distributed; a Zookeeper Census/Survey has been put together and will be distributed in the near future; Chapter formation guidelines have been revised; financial reporting by chapters has been standardized to comply with new IRS requirements; responsibilities of RCs have been revised; etc. Please watch for Bill's monthly reports in *AKF* to get further information about these changes. Also, see separate article in this issue, which details discussions held during the RC/Chapter Affairs workshop held in Syracuse.

The Board said it would like to see Bill take on an assistant to help with the expanded responsibilities of this position. Nanci Pantivalli and Colleen Kinzley were appointed. appointed. The CRAC Chair proposed, and the Board approved, the requirement that all chapter treasurers be bondable. The Board also asked Bill to provide a history of the RC system for historical reference, particularly since the changes have been so great during the past year. A \$1000.00 budget was approved for the RC/Chapter Affairs Committee for 1990.

Keeper Training and Education Committee (report of committees recently combined)

It was decided to consolidate the functions and purposes of several AAZK committees which deal with various aspects of training and education. The Keeper Education Committee has been replaced by the Keeper Training and Education Committee. This committee will include the Keeper Training Materials Identification Project (under Rosemary Jalink) and the Library Resources/Reference Search Project (under Marilyn Cole). Laura Treschel (Minnesota Zoo) continues as coordinator for the literature portion of KTMIP. Kaci Thompson has resigned her position as co-chair of Library Resources/Reference Search. The goal of the combined committees will be to provide keepers with both training materials (manuals/videos) and information on using available library and reference materials for research. The newly restructured committee will also encompass the former Program Library which has been inactive for several years.

Marilyn reported that Metro Toronto Zoo has agreed to purchase the software needed to set up the Reference Search database. Rosemary reported that she wishes to put the listing of training manuals and videos into some type of catalogue and make it available to zoo libraries. It was suggested that an abstract of the manuals/videos be included to give the buyer a description of what they are purchasing. It was also suggested that the availability

Overview of '89 Board of Directors Meeting, Continued

of this catalogue be advertised in AAZPA and other appropriate sources. Marilyn and Rosemary will serve as co-chairs of the overall committee with each chairing their respective portion. A budget of \$200.00 was approved for Library Resources/Reference Search and a budget of \$150.00 was approved for KTMIP.

National Conference Bids/Conference Book Committee

The Audubon Park Zoo Chapter, New Orleans, is the host for the 16th National AAZK Conference. Dates for this conference as 4-8 November 1990 (the late date in order to avoid the hurricane season). The host committee has already signed a contract with the conference hotel and is busy making preparations for the 1990 conference. Terry Carr reported that they have been given a budget of \$20,000 by their facility to assist in covering conference expenses.

It was announced that the Toledo Zoo AAZK Chapter would present a bid to host the 1991 Conference. Additionally, the San Diego Zoo AAZK Chapter presented a bid to host the 18th AAZK Conference in 1992 which will mark the 25th anniversary of the Association.

It was suggested that bids for conferences be taken three years in advance of the actual date as opposed to the present practice of allowing two years preparation. This is primarily due to the fact that attendance at AAZK conferences has grown to the point where host committees need to be able to make hotel arrangements farther in advance. This change may require a by-law amendment.

Tim Kelly, Chairman of the Conference Book Committee reported that some progress has been made in putting together this reference source for prospective host chapters. Ed Hansen, committee member and co-chair of the '88 Tucson conference, has written seven chapters thus far. Other portions need to be completed in order to offer a well-constructed guide for chapters seeking to host a conference. Alan Baker, chair for the '89 Syracuse Conference has been appointed to serve on this committee during 1990. Hopefully the Conference Book will soon become a reality. A budget of \$50.00 was approved for 1990.

Keeper Accommodations List (KAL) - report submitted by Heidi Manickl

This is the 9th year of KAL--a network which puts traveling keepers in contact with other zoo people willing to provide accommodations at their facilities. Heidi reported that we now have more than one contact person at a number of institutions. The 1989 list has 18 new zoos which includes two new countries, one new province and three new states (United Kingdom, Japan, Quebec, Oklahoma, North Dakota and New Mexico). Heidi reported that a continuing problem is the failure of contact people to notify her or AO when they change locations. All KAL contact people are asked to please notify AO of any changes so that the list may be kept as current as possible. Heidi was also able to secure a number of new contacts during the Syracuse conference and these will be incorporated on the 1990 list. This list is maintained on the computers at AO. A budget of \$50.00 was approved for 1990.

Awards Committee-report submitted by Janet McCoy

Jan reported that due to the groundwork laid by previous chairman Rachel Rogers and the refinement of the system she undertook this past year, the awards process has gone smoothly. John Kiseda has resigned from the committee and was replaced by Phil Prewett. Some changes were made in award certificates this year. The Certificate of Merit for Zoo Keeper Education now lists the project coordinator as well as the institution receiving the award. All awards have now been placed on the AO computer and can be generated in-house rather than having to be commercially printed and then hand-lettered.

Wording was changed on the Certificate of Merit for Zookeeper Education and Certificate of Appreciation criteria to read "Any North American zoological staff individual, institution or organization is eligible" thus now including aquariums and other related facilities. The Meritorious Achievement Award and Certificate of Recognition Award criteria now states that the recipient must be an AAZK member. The Certificates of Recognition (given

Overview of '89 Board of Directors Meeting. *Continued*

to those within AAZK) and the Certificate of Appreciation (given to those non AAZK members) are determined by the Board of Directors and do not pass through the Awards committee review process.

The Awards Committee Handbook has been placed on computer disc to allow for ease of additions/deletions in the future. A Chairman's handbook has also been developed.

The Awards Committee has been asked to determine criteria for a Certificate of Excellence in Exhibitory and an AAZK Conservation Award. Preliminary work has been done on the exhibitory award, but revisions were needed after review at the conference. A report on these two proposed awards will be made to the Board at the mid-year meeting. A budget of \$30.00 was approved to cover postage/phone expenses of the committee during 1990.

AAZK Liaison to AAZPA and IZE

Kerry Hoffman, Reid Park Zoo, has been appointed to this position which has been vacant since April 1988. Some of the goals for this Liaison for 1990 will include: 1) working out a reciprocity arrangement with AAZPA-accredited institutions; 2) working on setting up arrangements for an annual Keeper Workshop at AAZPA National Conferences (proposed topic for 1990 is 'Keeper Safety'); 3) keep AAZPA informed on progress of AAZK projects including Diet Notebook, Zoo Infant Development Project, Zookeeper Survey and a proposal for a safety course to be included in Management School. A budget of \$15.00 for postage expenses for 1990 was approved.

Public Education Committee-report submitted by Ellen Bradfield

The P.E. Committee has completed revision of the text for the Zoo Keeping as a Career brochure and is completing acquisition of appropriate photographs. It should be ready for printing by the end of the year. The Committee continues to run its "Zoo Questions" column occasionally in *AKF*. The long-term goal is to publish a booklet on the best answers to the questions most frequently asked by zoo visitors. Tom LaBarge continues work on the Zookeeping poster project. The AAZK Membership Information Display is still in production. Ellen will have cost estimates to the Board by the mid-year meeting. A budget of \$25.00 was approved for 1990.

Public Relations Liaison-report submitted by Tim Kurkowski

Tim continues to serve as an aid to the Administrative Secretary by answering letters from individuals interested in a career in zookeeping. He answers these inquiries from a working zookeeper's perspective-what is the job like, what do you do, what type of education is required, etc. A budget of \$25.00 was approved for 1990.

Legislative Advisor -report submitted by John Stoddard

The goal of the Legislative Advisor is to inform the membership of various legal, administrative, and legislative changes affecting zoos, zoo animals, wildlife, conservation, and ecology via a monthly column in *AKF*. Such items have included updates on Endangered Species Act, Marine Mammal Protection Act, Elephant Protection Act, Yellowstone Wolf Reintroduction Act, Clean Air Act, ANWR Wilderness protection Act, Federal Government budget allocations, federal agencies and their policy and regulation changes, international treaties, AAZPA policies and position statements, etc. This is accomplished by the Advisor having access to various publications covering such topics as well as information provided by the AAZPA Legislative Committee. A budget of \$100.00 to cover the cost of postage, phone calls and subscriptions to reference sources was approved.

Staff Exchange

No report was received from committee chair Cynthia Simpson nor has there been any reported activity with this project during 1989. The Board will be checking with Cynthia to ascertain the status of the committee, to see if she needs assistance and determine whether

Overview of '89 Board of Directors Meeting, Continued

or not she can remain as chair.

Research/Grants Committee

Chair Kaci Thompson has resigned and a replacement will need to be found. There have been no grants given out for several years, but this may be primarily due to the fact that little publicity has been done by the committee on the availability of these keeper-initiated research grants. The committee is authorized to offer two \$500 grants each fiscal year. This committee needs to publicize to the membership. Pending appointment of a new chair, a budget of \$1025 was approved for 1990.

Keeper Training Videotape Project-reports submitted by Marilyn Cole, Production Coordinator and Jean Ragland-McMahan, Distribution Coordinator

The purpose of this project is to generate training videotapes to assist our membership and others in educating zookeepers in various aspects of our profession. Two videos are currently available: "Zoo Keeper Safety: An Attitude Adjustment" by B. Wayne Buchanan and "An Introduction to Feeds and Feeding" by the Metro Toronto Zoo AAZK Chapter. A third training video, "The Keepers' Role in Zoo Animal Health" is now in its second year of production by Judie Steenberg. It is to be ready for distribution in late 1990.

Two videotapes produced from the workshop (How to Make A Videotape) at Tucson were loaned out and have yet to be returned. Once they are retrieved, a system will be set up whereby those interested in producing a training videotape will be able to check them out of AO on a limited loan basis.

Marilyn received Board approval to produce a standard lead-in which will be used on all future training videotapes to give uniformity to the project and appropriate credit to AAZK as the sponsoring agency. She will also be inserting announcements in AKF encouraging members/chapters to take the production of training videotape and to provide copies of in-house footage that might be relevant to other keepers (births, captures, veterinary procedures, etc.)

Marilyn had requested, at Judie Steenberg's suggestion, that the majority of the funds which have been generated by this self-sustaining project (about \$3,000) be transferred to her for distribution when needed to those making new tapes. The Board, however, decided that due to the changes in Canadian currency exchange rates, these funds should remain in a special account at AO and distributed from there as required.

Since the inception of this project, the Puget Sound Chapter has received the generous cooperation of the Safeco Insurance Co. of Seattle which has duplicated the tapes at no cost to AAZK. Because those at Woodland Park Zoo are passing the project on to others, the Board decided, at the recommendation of Judie Steenberg and Jean Ragland-McMahan, to transfer the distribution portion of the project to AO in Topeka beginning 1 January 1990. Puget Sound Chapter will have 15 copies of each tape made to serve as a beginning inventory for AO until a source for either gratis or inexpensive duplicating can be found in Topeka.

Jean Ragland-McMahan reported that a rough draft video on reptile care has been submitted by Mark Wilson, DVM of Miami, FL. It is currently being reviewed for consideration as an addition to the training tape series. Jean also reported that 18 tapes (9 of each previously listed as available) have been sold during 1989 generating \$460.00 for the project. Expenses for the project (purchase of blank cassettes and postage/ mailing expenses) totaled \$158.97. Balance as of 31 August 1989 in the Videotape account was \$4462.12. No budget request made as project is self-sustaining.

Animal Data Transfer Forms-report submitted by Bernie Feldman

Bernie reported that this year has been a good one for the ADT Project, although a little slower than previous years. It is encouraging to note that many SSP coordinators and

Overview of '89 Board of Directors Meeting. *Continued*

Studbook Keepers are now requiring the use of the form when animals are shipped. The use of the form continues to be an important informational tool within the zoological community.

During 1989 Bernie was able to have the ADT Form produced in a bulk printing (6,000 as opposed to 4 printing of 1,500 each) which produced a substantial savings to AAZK. He acknowledged the assistance of the Friends of the Burnet Park Zoo who provided the funding up-front for this bulk printing. The Friends group was then repaid on a quarterly basis by AAZK AO.

Bernie also requested that the savings account at Syracuse which holds project funds be transferred to an AAZK account rather than a personal account as it was originally set up. This was taken care of during conference time in Syracuse. Bernie also presented a paper updating the ADT Form project to the membership at the Syracuse conference. A budget request of \$800.00 for 1990 was approved.

Exhibit Design Form-report by Mark de Denus

The purpose of the Exhibit Design Form is to gather information from zoos about exhibits they have built and/or renovated detailing how the exhibit has worked out for both the animals and the zoo staff. This information would be made available to other facilities who are planning to build and/or renovate an exhibit for the same or similar species. The hope is to help zoos avoid exhibit design mistakes made in the past and provide information of aspects of an exhibit which have worked well.

Mark de Denus will be reviewing the form and offering suggestions to the Board on how it can be made more useful. The Board requested that AO staff discuss with AAZK's lawyer the release forms currently used with the form and determine if a disclaimer printed directly on the form would serve the same purpose as far as AAZK liability is concerned. The Board also suggested that once the project is revitalized and operational that the format be a notebook similar to the Diet Notebook. A budget of \$25.00 was approved to cover postage expenses. Should the form need to be reprinted, additional funds will be appropriated at that time.

Zoo/University List-report submitted by Mike Illig

The Zoo/University Project now has 97 entries, including five new this year, listing institutions that offer programs or courses relating to the care of captive animals. The list is sent gratis to those requesting it. Mike reported he had filled 5 requests for the list during 1989, but AO reported that they had received numerous requests and had filled about 30 during 1989.

Mike reported that on 1 November 1989 he sent out a mailing to all listed institutions requesting updated information on their programs and courses in order to keep the Zoo/University list up-to-date. A budget request of \$50 for 1990 was approved.

AAZK History Committee-no report submitted

Since no report was received, the Board has no idea on how the progress is going on the proposed 25th AAZK Anniversary Book. They will be checking with Committee chair Art Goodrich for an update and to determine if others need to become involved in order to get the project completed on time. The Board requested that any members interested in researching AAZK history for the book contact Susan Chan at AO. Judie Steenberg added that she had a complete set of AAZK/AKF publications at Woodland Park. A tentative budget of \$50.00 was approved.

Overview of '89 Board of Directors Meeting, Continued

Chapter Projects/Products

Zoo Stories Book-report submitted by John Stoddard

Ongoing activities consist only of filling orders as received and ensuring that additional copies are printed as needed. Additional submissions are being collected for a second volume but this seems unlikely due to the low response. The project requires no funding on a national level as production costs have been met by the Brookfield Chapter and recovered from sales. Profits after expenses have been met are split with AAZK AO--to date \$275.00 has been sent. No budget requested.

AAZK Logo Coffee Mugs and Egg Ornaments-reports submitted by Carol Boyd

Carol reported that no profit has yet been realized on the second shipment of mugs. She reported that 34 mugs were sold in 1988 and 25 mugs were sold in 1989. They need to sell 9 more mugs before a profit is realized on the second order. Due to the fragile nature of the egg ornaments (handpainted with the AAZK rhino logo) they are sold only at conferences. The Milwaukee Chapter needs to sell three more eggs before a profit will be realized.

AAZK Stickers/Decals-report submitted by Rosemary Jalink

Project continues to be handled by the Appalachian Chapter in Roanoke, VA. This chapter has recently become inactive, but had initially funded set-up costs and shipping costs for the new decals and is therefore entitled to funds until this cost is paid off. Of the initial investment of \$306.01, \$187.75 is still left to be recovered. While orders are still placed through the Appalachian Chapter, Rosemary (now at the National Aquarium in Baltimore) actually fills the orders. When the total remaining revenue has been returned to the Appalachian Chapter, the Greater Baltimore Chapter has shown an interest in taking on this project as its own.

AAZK Belt Buckle Project-report submitted by Terri Schuerman

During 1989 the Belt Buckle Project remained under the control of the San Diego AAZK Chapter. Awaiting the transfer of the project to another chapter, we have continued to offer the buckles for sale through AKF and at national conference. During the past 12 months we have sold 5 large and 20 small buckles leaving an inventory of only 8 small buckles remaining. The San Diego Chapter would like to turn this project over to another chapter as soon as possible and can supply all necessary information on ordering, etc. Anticipating selling the remaining inventory at Syracuse, the San Diego Chapter sent a check for \$162.50 to AAZK AO which represents their profit split of total sales.

AAZK License Plates-oral report by Lee Williams, Detroit Zoo Chapter

Lee reported that after some difficulties, the project was being revitalized and those who had placed orders should be receiving them. If they do not, they are asked to contact her at the Detroit Zoo. She stated further that the chapter was wishing to redesign the license plates once the current inventory was sold before offering them again.

AAZK Logo T-Shirts/Swetshirts/Colder Holders-project of Little Rock AAZK Chapter-no report submitted at press time.

AAZK Bumper Stickers-project of High Plains Chapter, Garden City, KS -no report submitted as of press time.

AAZK Magnetic Safety Signs-project of Flint Hills Chapter, Manhattan, KS-no report submitted as of press time.

Overview of '89 Board of Directors Meeting, Continued

Other Proposals Brought Before the Board

From Tucson AAZK Chapter-Ed Hansen proposed his chapter taking on a membership campaign for AAZK. Their goal would be to increase membership by 30%. This campaign would be done either by incorporating their material in the current membership brochure or by producing one of their own to use in recruitment. The Chapter also would like to pursue obtaining discounts and/or benefits from various companies (car rentals, hotels, book stores, airlines, restaurants, photo companies, environmental groups, etc) which members could receive simply by showing their AAZK membership card. These would serve as 'perks' to being an AAZK member. The Board approved the Tucson Chapter's proposal and they will now investigate how it should be implemented and report back to the Board at the mid-year meeting.

From Bill Whittaker and Andy Lodge-a proposal was put before the Board to establish an AAZK Conservation Committee to coordinate national conservation projects. The Board approved the proposal and further information on how the committee is structured and its goals and functions may be found in a separate article in this issue of *AAK*.

Bill and Andy also proposed that AAZK take on "Bowling for Rhinos" as a national project. This has been incorporated in the above-mentioned Conservation Committee.

From Leslie Field, GSFBA Chapter-it was proposed that AAZK help with fundraising for the Ecosystem Survival Plan (originated by the Greater San Francisco Bay Area Chapter) on a national basis. This has been incorporated in the above-mentioned Conservation Committee.

Minutes of the 1989 AAZK General Membership Meeting

The meeting was called to order at 9:30 a.m. at the Burnet Park Zoo by President Frank B. Kohn. Opening remarks and welcome were made by David Raboy, Director, and a representative from the Friends of the Burnet Park Zoo. The first order of business was membership approval for the granting of National Honorary Life Membership to two individuals: 1) Andy Lodge, Columbus Zoo, for his work with the Ngare Sergoi Black Rhino Sanctuary; and 2) Gary K. Clarke, Director of the Topeka Zoo, for the support he has shown AAZK and *AAK* by providing office space for the administrative offices of AAZK. Both were approved by the attending membership.

Frank gave a report on the State of the Association and each Board member gave a brief report on the committees/projects under their oversight with those chairpersons present adding pertinent comments.

One of the primary items discussed at the general meeting was the change in tax status recently granted to AAZK by the Internal Revenue Service. The Association now has a 501 (c) (3) exemption rating and Frank reiterated the need for chapter cooperation in meeting the need for accurate financial reporting to AO.

Bill Whittaker gave a report on the revised RC/Chapter System and also, in conjunction with Board Member Bob Debets, on the newly formed AAZK Conservation Committee (officially called Conservation Preservation and Restoration Committee--CPR Committee). *(Details in separate article in this issue).*

A bid to host the 1991 AAZK National Conference had been presented by the Toledo Chapter earlier in the week. A bid to host the 1992 25th AAZK Anniversary Conference by the San Diego Chapter was also presented earlier in the week. At the general membership meeting members voted unanimously to accept the bids proposals of Toledo and San Diego.

Frank Kohn announced the new officers for the Board of Directors. Oliver Claffey, Metro Toronto Zoo, will assume the duties of AAZK President on 1 January 1990. Bob Debets, Assiniboine Park Zoo, will assume the duties of Vice President on the same date. It is the first time in the Association's history that we have had a Canadian President and now both top officers of AAZK are keepers at Canadian zoological facilities.

There being no further business, the meeting was adjourned at 11:15 p.m. to reconvene in New Orleans in 1990.



Chapter News

AAZK is pleased to welcome three new Chapters to the Association. They are:

The Cypress Coast Chapter

This Chapter includes members from the Dreher Park Zoo and the Avicultural Breeding and Research Center. Their mailing address is 1301 Summit Blvd., West Palm Beach, FL 33405.

Current officers are:

President.....William Garrison
Vice Pres.....Ric Urban
Secretary.....Tami Ryf
Treasurer.....April Lazik
Chapter Liaison....James D'Amico

Central Florida Chapter

This Chapter includes members from the Central Florida Zoo (CFZ), Cypress Gardens (CG), Seaworld/Orlando (SW), and Discovery Island at Disneyworld (DI). Their mailing address is 2159 Chardonnay Court West, Kissimmee, FL 34741.

Current officers are:

President.....Kelly Webb Fad (CG)
Vice Pres.....Kelly Hall (CG)
Sec/Treas.....Debbie Zombeck (SW)
Chapter Liaisons..Lee Crowell (CFZ)

AAZK-EFBC

This Chapter is made up of members from the Exotic Feline Breeding Compound. Their mailing address is Star Route 1, Box 84, Rosamond, CA 93560.

Current officers are:

President.....Patricia McNaught
Vice Pres.....JoAnn Anderson
Secretary.....Joanne Williams
Treasurer.....Louisa Chabot
Chapter Liaison.....Julie Abraham

Boston Metro Zoo Chapter

Nineteen-eighty-nine has been productive for the Boston Metro Zoos Chapter so far. We have been selling Jim Morris wildlife T-shirts and recycling bottles and cans to raise money. Our biggest fundraiser, however, was selling food and soda at Stone Zoo during a period when we were without concessions.

The money that we have raised has been put to many uses. Our yearly donation to conservation was \$100 to the Essex County Greenbelt Association. We also donated the AAZK Diet Notebook to our zoo library in the name of our deceased dietician, Margie Finn. Recently, we decided to purchase a liquid nitrogen gamete storage system to donate to our zoo hospital. Finally, a fund has been established to help finance keepers attending conferences. This contributed to sending two of us to Syracuse.

The membership voted to change our old addax logo to a new bongo design. The newsletter, which is in its fifth consecutive year of publication, has gone over to a quarterly format. Recent activities have included an August barbecue, and a presentation by Pam Shannon and Larry Bannister on "Live Elephant", which was very informative. The education committee is currently working on putting together a slide show which we will present to groups seeking more information on zookeeping.

Newly elected officers are:

President.....Pete Costello
VP/Chapter Liaison...Tom Aversa
Secretary.....Mary Jo Fitzgerald
Treasurer.....Ed O'Brien

--Tom Aversa, Chapter Liaison



ANIMAL DEATH FORM REPORT; Important Data for Animal Husbandry and Preventive Health Programs

By
Dr. Kent Osborn, Associate Pathologist
Zoological Society of San Diego
San Diego, CA

An important part of any animal husbandry program is the postmortem examination of all animals that die. Many animals die unexpectedly; that is, without obvious signs of illness. Even for those animals that have been recognized as ill, or have also been diagnosed and treated, or have an apparently obvious cause of death (e.g. - trauma), the necropsy can be important for further characterizing an animal's state of health and underlying problems. The final report of the animal's necropsy findings can provide valuable information for preventive health programs for the living and future animals in a collection. The usefulness of such an examination, however, is only as good as the completeness of the data. This data starts with the animal's history.

In order to assure that we have the most complete historical data, the Zoological Society of San Diego Pathology Department uses an Animal Death Report questionnaire that is submitted with the animal's body. This questionnaire is filled out by keepers or Veterinary Services personnel and was created with input from keeper, curator, and veterinary staff at both the San Diego Zoo and San Diego Wild Animal Park. I have written this article in order to share the Animal Death Report form with other institutions, and to discuss the reasoning behind the particular series of questions that make it up.

The first few lines of the Animal Death Report give the animal's identification data and other demographic data. The animal species, sex and individual identification are needed for keeping the Animal Registrar, Veterinary Services and Pathology records complete, accurate and integrated. The date and time found dead give information useful for interpreting certain changes recognized during the necropsy. Knowing the birth/hatch date or when the animal was received into the collection is important in assessing possible age-related problems and/or problems associated with recent acquisition. Enclosure/string and enclosure/mates information is important in assessing whether this animal's death indicates a health threat to other animals. Finally, weather conditions can be important factors contributing to an animal's illness or death and to interpreting postmortem changes.

Body weight is a key factor in evaluating an animal's health, since weight loss often occurs when an animal is ill. The rate of weight loss or gain can be important as well. In those cases in which additional data on body weight is available, this can be noted under "Additional Information" at the end of the History section. Noting recent health or behavioral abnormalities can help to clarify how long a problem has existed and possibly point to the key initial problem, complications of which are the subsequent cause of death. Details can be described in the "Additional Information" section. Whether or not an animal has undergone treatment and what types of recent medication have been used are also important. The use and types of treatment can affect the course of a problem, alter the apparent severity of the problem, and even at times cause its own additional problems.

Animals often are particularly vulnerable to health problems during and after a recent move or relocation, with the problems not evident till up to approximately 30 days later. Among the potential factors a relocated animal must deal with are: 1) adapting to the new physical environment, including relative enclosure size, enclosure structure and barriers, locations of food and shelter, and climate-type differences; 2) adapting to a new social environment including intra- and/or interspecies interactions; and 3) possible exposure to new potentially disease-causing agents.

We include in the history an assessment of housing conditions with grades from excellent to poor. It is often helpful if an enclosure rates "marginal" or "poor" to explain why in the "Additional Information" section. The series of questions under enclosure changes address potential problems similar to those faced by a recently moved or relocated animal as discussed above.

Animal Death Report Form. *Continued*

ANIMAL DEATH REPORT
ZOOLOGICAL SOCIETY OF SAN DIEGO

TO: Registrar, Curators and Animal Care Staff
FROM: The Pathologists

SITE: ZOO _____ PARK _____ OTHER _____ NECROPSY # _____

ANIMAL SPECIES _____ SEX: _____

DATE FOUND DEAD _____ TIME FOUND DEAD _____

BAND OR TAG OR TATTOO # _____ ACCESSION # (ISIS) _____

BIRTH/HATCH DATE OR DATE RECEIVED INTO THE COLLECTION _____

ENCLOSURE/STRING _____ ENCLOSUREMATES _____

WEATHER: HOT _____ COLD _____ AVERAGE _____ WINDY _____ RAIN _____ OTHER _____

HISTORY:

Body weight: Most recent _____ date _____ Greatest _____ date _____

Recent health or behavioral abnormalities? Yes _____ No _____ date _____

Treatment Yes _____ No _____ date _____

Recent medication (type, date) _____

Hospitalized Yes _____ No _____ date _____

Recent move or relocation (within 30 days)? Yes _____ No _____

From _____ To _____ date _____

Housing conditions Exc _____ Good _____ OK _____ Marginal _____ Poor _____

Enclosure changes? Yes _____ No _____

Structural modifications? _____ date _____

Animals added _____ or deleted? _____ date _____

Aggression: intraspecies? _____ interspecies? _____ date _____

Nutrition Recent diet changes? _____

Appetite Increased _____ Decreased _____ No change _____ None _____ Unknown _____

Reproductive/pedigree history

Dam ID _____ Sire ID _____

For young animals: Previous births from this animal's dam? yes _____ no _____

Were they: live / stillborn / neonatal death / dystocia /
hand raised?

Additional information regarding this animal's death _____

(7/89)

SUBMITTED BY: _____

Keeper staff need only fill out front page. Thanks.

Animal Death Report Form, Continued

VETERINARY SERVICES DATA QUESTIONNAIRE:

Necropsy #

Euthanasia? Yes _____ No _____

Method and site: _____

Clinical evaluation:

Observation only _____ Physical exam? Yes _____ No _____ Date _____

Additional clinical workup:

Test	Yes	Date	Accession #	Comment
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CBC

Serum chemistry

Microbiology

Parasitology

Radiology

Biopsy

Other

Clinical Dx

Comments

CLINICIAN/AHT

* * * * *

PATHOLOGIST'S FINDINGS

BODY RECEIVED ON DATE	TIME	ID VERIFIED
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NECROPSY DATE _____ TIME _____ HISTOPATH: NO READ FILED

SEX	BODY WEIGHT	BRAIN WEIGHT	CROWN-RUMP LENGTH
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SNOUT-VENT LENGTH _____ SNOUT-TAIL LENGTH _____

Cosmetic

SPECIAL DISPOSITION OF BODY OR ORGANS: Incinerated Saved

Biopsy _____ L/H/S _____ Pituitary/Pancreas _____ Repro _____ Bile _____

Serum, liver, spleen _____ Reptile fetus/egg _____

LAB WORK

POSTMORTEM FINDINGS:	Preliminary	Final
1. Cause of death:		
2. Manner of death:		
3. Significant findings:		
4. Comments:		

PROSECUTOR _____

Animal Death Report Form, Continued

The Nutrition section deals with such changes as the type of food (e.g. adding or deleting various types of food) or changes in components in the diet (e.g. changes in protein, fiber, calcium, etc.). The question of appetite addresses a nonspecific but important clue. For example, weight loss, in the face of normal or even increased appetite might be associated with infection (e.g. parasitism), cancer or hormonal problems (e.g. diabetes). Alternatively, some animals might gain weight, even though their food consumption remains normal, as in individuals in sedentary housing situations or with hypothyroidism.

When very young animals die, it is often useful to know who the dam is and what her reproductive history is. Infections noted in an offspring may point to treatable medical problems in the dam. Reproductive history information can help to characterize problems for the baby having to do with the dam's ability to carry or deliver a fetus or egg, or care for her offspring. Similarly, certain sires may have offspring with particular problems, such as congenital defects.

The "Additional Information" section serves as a final opportunity to provide information that may seem important to the case. It is also a chance for the person filling out the history to ask questions or propose factors that they feel are important. With the "front lines" perspective of the keeper, thoughts and questions posed in this section can help to put the particular animal's death into better focus regarding its impact on animal husbandry programs.

The next major section of the Animal Death Report is the Veterinary Services Data Questionnaire in which Veterinary Services personnel indicate information regarding their dealings with the animal. Whether or not euthanasia was performed and the method and site of euthanasia, can be a key to interpreting some findings during a necropsy. The type of Clinical evaluation and results of the clinical work up are very useful ancillary data for interpreting postmortem findings. Finally, information in the Clinical Dx and Comments sections give the pathologist additional cues as to the areas of particular interest for the necropsy.

The Pathologist's findings section is the final wrap up to our Animal Death Report. When noting the date and time the body is received, we also verify the ID to help keep the collection inventory accurately updated. Whether we took samples for Histopathology and plan to look at it gives some idea as to how complete the necropsy report is. We determine and confirm the sex and record basic body measurements as part of the general necropsy report. In addition, the Pathology Department keeps a list of specimen requests from researchers, museums and educational institutions that we check each time an animal comes to us. The special disposition of body or organs section confirms what samples we have taken to meet these requests. This latter process is one more way we make sure that all possible benefits can be attained when an animal dies. Similarly, we indicate what additional diagnostic tests (Lab work) were or will be performed (bacterial culture, virology, cytology, parasite exams, etc.) as a part of the pathology work up.

The last section is our Postmortem findings section. Here we note the animal's general body condition and list the significant necropsy findings, then make comments regarding how our findings relate to the cause of the animal's death. When possible, we discuss how the dead animal's problems impacts management of other animals in the collection. We also address any questions posed by the keepers and veterinary services personnel.

As shown in this report, a great deal of valuable information regarding the cause of an animal's death comes from its history. This report was written to share one of the ways that we try to maximize what we know regarding the causes and circumstances of an animal's death. We have found this Animal Death Report format useful in giving cues to animal care staff as they fill out background data to submit with the animal's body. I hope it can prove useful in other institutions as well and would welcome any questions, suggestions or comments regarding our Animal Death Report format.

Acknowledgements:

Drs. Howard Steinberg and Marilyn Anderson, Ms. Julie Medlock, and Veterinary Services, Animal Care and Curatorial staffs of the San Diego Wild Animal Park and San Diego Zoo.



Proposed New Enclosure for Captive Woolly Monkey Colony

By
*Eric Schneider, Keeper
The Monkey Sanctuary
Looe, Cornwall, England*

The Monkey Sanctuary, Looe, Cornwall, England, is the home of the oldest and most successful captive colony of woolly monkeys (*Lagothrix lagotricha*) in the world. The first captive births of a woolly monkey occurred at the Sanctuary in 1966 and the colony has continued to grow ever since. The colony has now reached a total of twenty animals, representing three generations. By contrast, the U.S. population totals around 50 animals and recently had the birth of its second generation animal.

Woolly monkeys are very prone to stress-related diseases; they are the only nonhuman primate which appears to suffer from spontaneous hypertension. Hypertensive disorders have been the leading cause of death in captive woolly monkeys. The Monkey Sanctuary population does not suffer from these problems at the moment. This is reflected in the average lifespan of animals here, 25 years, and by the necropsy reports on animals which have died. The monkeys at the Sanctuary do not show the cardiovascular changes associated with chronic hypertension.

We are quite concerned, however, that if we do not give the colony room to expand, overcrowding may lead to problems with stress and hypertension. Unfortunately the animals most susceptible to this stress are the most valuable ones, the pregnant females and infants. It is possible that one or two young males in the past have succumbed to stress-related problems and this is something that we are trying to avoid in the future.

In order to get the funds to build a new enclosure for the colony, the Sanctuary has launched a public appeal to raise £10,000. This is the first time that the Sanctuary has ever made such an appeal and this reflects the urgency of our need. The Sanctuary is privately owned and funded. It does not receive any government support of any kind. Admission fees provide sufficient funds to maintain day-to-day operations, but the Sanctuary does not have the cash reserves to take on a project of this magnitude. All of the staff live on the grounds and accept only minimum wages to cover personal expenses. All Sanctuary resources are devoted to maintaining the monkeys in the best possible condition. If any of you or your chapters would like to help the Sanctuary get the funds to expand, please write to:

The Monkey Sanctuary
St. Martins by Looe
Cornwall,
England PL13 1 NZ

Any help that you can give would be greatly appreciated.



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INFORMATION FOR CONTRIBUTORS

Animal Keepers' Forum publishes original papers and news items of interest to the animal keeping profession. Non-members are welcome to submit articles for consideration.

Articles should be typed or hand-printed and double-spaced. All illustrations, graphs and tables should be clearly marked, in final form, and should fit in a page size **no greater than** 6" x 10" (15cm x 25 1/2cm). Literature used should be cited in the text and in final bibliography. Avoid footnotes. Include scientific name of species (as per ISIS) the first time it is used. Thereafter use common name. Black and white photos only accepted.

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Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted. Our phone number is (913) 272-5821 Ext. 31. Our FAX is 913-272-2539.

ASSISTANT CO-ORDINATOR...at Wild Bird Rehabilitation Center. Center cares for all species of native birds, 2000+ birds per year (of which about 200 are raptors); 2 full-time staff (Co-ordinator and Assistant Co-ordinator), 1-3 part-time staff, volunteers. Responsibilities include general keeper duties (cleaning and enclosure maintenance, diet preparation), medicating, record-keeping and other activities relating to rehabilitating birds. Help supervise and coordinate volunteers. Will also participate in public education programs and respond to telephone inquiries. Position will become available early in mid-December 1989. Contact: Jamie P. Prim, Coordinator, Wild Bird Rehabilitation Center, Audubon Zoological Garden, P.O. Box 4327, New Orleans, LA 70178

ZOO ATTENDANT/NURSERY/ANIMAL HEALTH...requires high school graduation plus one year experience with the care of newborn non-domestic animals. Experience and/or training in veterinary assistance is also desirable, but not essential. Responsibilities include care of Zoo Nursery/Animal Health Ward animals and assisting Zoo Veterinarian in medical care of zoo collection. Salary: \$1,242-\$1,635 per month plus benefits. Send resume directly to: Reta Gaebler, City Hall Personnel Dept., 414 East 12th Street, Kansas City, MO 64106. Closing date is 1 December 1989. EOE/M/F/H.

ZOO ATTENDANT/HOOFSTOCK...requires high school graduation plus one year experience with African hoofstock preferred. Responsible for care and observation of mixed hoofstock exhibits, maintenance, record keeping and interaction with docents and public. Salary: \$1,241-\$1,635/month plus benefits. Send resume directly to: Reta Gaebler, City Hall Personnel Dept., 414 East 12th Street, Kansas City, MO 64106. Closing date is 1 December 1989. EOE/M/F/H.

RESEARCH DIRECTOR...requires a Ph. D. in zoology or related field. Will be responsible for initiation of research programs and supervision of all phases of scientific study, including coordination of in-house projects and participation in national programs. Salary \$2,000/month. Send curriculum vitae to: David Anderson, Associate Director/General Curator, Audubon Park Zoo, P.O. Box 4327, New Orleans, LA 70178,

VETERINARY TECHNICIAN...requires a degree as a Veterinary Technician or Animal Health Technician and/or a valid license, or be eligible for New York License. Prefer some exotic animal experience with a background of native wild animal care. Salary commensurate with experience. Send cover letter and resume to: Kimberly G. Davidson, General Curator, Utica Zoo, Steele Hill Road, Utica, NY 13501 (315) 738-0472. EOE.

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December 1989



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Assistant Editor: Alice Miser
Assistant Editor: Ron Ringer

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This month's cover art features the Barred Owl (Strix varia) drawn by Mona Keith, a keeper at the Calgary Zoo, Calgary, Alberta, Canada. The Barred owl is one of only three large North American owls with dark eyes. Along with this feature, the barring crosswise on the breast distinguishes it from the Great Grey (Strix nebulosa) with which it is sometimes confused. It has a wingspan of 40-50 inches and its range is throughout eastern North America and the northern part of its range extends across Canada to British Columbia. Its call is a series of eight accented hoots ending in "oo-aw" with a downward pitch at the end--sounding like "Who cooks for you? Who cooks for you-all!" Thanks, Mona!

Scoops

and

Scuttlebutt

Gorilla Workshop Issues Call For Papers

The Columbus Zoo will be hosting the Gorilla Workshop, June 22-25, 1990. The Gorilla Workshop will be addressing the socialization of the captive gorilla population with an emphasis on behavioral modification. Additional topics include keeper involvement, husbandry techniques, veterinary/keeper interaction, health care, exhibit design, inter-zoo cooperation and the application of field research to the captive population.

The poster session theme will be exhibit design and modification of existing facilities. Paper and poster abstracts must be publication ready for inclusion in the Workshop proceedings. Submit abstracts by 1 Feb. 1990 to: Selection Committee, the Columbus Zoo Gorilla Workshop, P. O. Box 400, Powell, OH 43065-0400. (614) 645-3426.

Public Education Committee Seeks Photos for Zookeeping Poster

The committee is in the process of developing a zookeeping poster. This requires photographs that visually show the different aspects of the job of a zookeeper. If you have color photographs of a zookeeper, (1) involved in the daily cleaning routine, (2) educating the public, (3) working with veterinary staff, or (4) interacting with animals that you feel would exemplify the zookeeper's role, please send to: Thomas LaBarge, Burnet Park Zoo, 500 Burnet Park Dr., Syracuse, NY 13204.

Also, if your AAZK Chapter would like to help in funding the printing costs of either the poster or the Zookeeping As a Career brochure, please let me know. Ellen Bradfield, Zoo Atlanta AAZK, 800 Cherokee Ave. S.E., Atlanta, GA 30315.

Zoo Atlanta Chapter Seeks Assistance in Sponsoring Foreign Keeper's Attendance at Jersey Wildlife Preservation Trust

The Zoo Atlanta AAZK Chapter has been sponsoring Pundareeka Rao of the Mysore Zoo, India for several years under the AAZK Foreign Keeper Sponsorship Program. He is currently taking the Animal Management Correspondence Course through a university in Great Britain. Susan Barnard of Zoo Atlanta has notified our offices that Pundareeka has just been accepted to attend an 18-week training course at the Jersey Wildlife Preservation Trust. This will also include a two-week internship at the Marwell Zoological Park in England. The total cost of tuition is \$1000, of which the Chapter has been able to contribute \$200. They are seeking assistance from other chapters or members to raise the rest of the needed funding. Pundareeka will be the first AAZK sponsored foreign keeper to have been

Scoops & Scuttlebutt, Continued

accepted by JWPT and his attendance at the course would be highly beneficial to his skills as a keeper. If any chapters or individual members would be interested in helping to cover the tuition costs, please contact Susan Barnard at Zoo Atlanta, 500 Cherokee Ave. S.E., Atlanta, GA 30315. Contributions in any amount would be most appreciated.



Dear AAZK Members,

We are all aware of the critical situation which has arisen from the drastic decrease, by poaching, of the Black Rhino and African Elephant in East Africa. Because of this situation, and also my close relationship with Anna Merz and her efforts to save the Black Rhino, I feel I must now devote all my time and energies to helping make sure Anna has the funds to continue the difficult task of protecting the Black Rhino. In mid-October I resigned my position as a pachyderm keeper at the Columbus Zoo in order to devote my full time to running the Ngare Sergoi Support Group, the main fundraising organization for the Ngare Sergoi Rhino Project. I intend to remain an active and supportive member of the American Association of Zoo Keepers and it is my sincere hope that this organization will continue to support Anna as it has in the past. Since I now have more time, I hope that I'll have the opportunity to visit more zoos and organizations around the country to bring Anna's message to as many people as possible.

I am also starting a conservation newsletter, the first edition we hope to have out by January 1990. This newsletter will deal with all important conservation matters. I hope you'll lend your support to this newsletter to make it a success as it is a means to get important conservation messages to people throughout the United States who might not otherwise have ready access to serious conservation information. I need your help in obtaining articles related to serious conservation issues. This newsletter can be a sounding board for you to express opinions on conservation and wildlife issues, and for these opinions to be published where they might not be accepted for publication in other forums.

I wanted to send this letter to the AKF to let you know my reasons for leaving my keeper job and to express my sincere gratitude for all the support that the American Association of Zoo Keepers has given the Ngare Sergoi Support Group in the past. For information about the newsletter and for making arrangements for talks at your zoo or other organization, I can be contacted at:

Ngare Sergoi Support Group
P.O. Box 29503
Columbus, OH 43229
(614) 885-0458 or (614) 431-0486

Sincerely,

Andy Lodge



Coming Events

The Eighth Annual Dr. School Conference on Nutrition of Captive Animals

December 8-9, 1989

Chicago, IL

Co-sponsored by the Lincoln Park Zoological Society and the Chicago Park District, the conference will be held at Lincoln Park Zoological Gardens. Topics will include koala browse production and development of alternative feeds, body composition testing of gorillas, natural vs. synthetic Vitamin E as a supplement, and the impact of secondary plant compounds and toxins on browse use. For registration information, contact Lois Stanley, Lincoln Park Zoological Gardens, 2200 North Canon Drive, Chicago, IL 60614, (312) 294-4666.

National Wildlife Rehabilitators Association "SYMPOSIUM '90"

March 21-25, 1990

Ithaca, NY

To be held at Cornell University, the Symposium's featured topics will be Toxins in the Environment and Oil Spills. Workshops will be held for acquisition of specific skills, including diagnosis and treatment, care and management, public education, catastrophic strategic planning. Workshops and lectures to include basic and advanced rehabilitation techniques, veterinary procedures, educational and management needs. For further information contact: Nancy Dabney, NWRA Announcement Chair, 2125 Wrens Way, Clearwater, FL 34624.

1990 AAZPA Regional Conferences

Central Regional - 11-13 March - for more information, contact Kathy Rickard, Gladys Porter Zoo, 500 Ringgold St., Brownsville, TX 78520 (512) 546-7187.

Western Regional - 25-27 March - For more information, contact Kim Parker, Sacramento Zoo, 3930 West Land Park Dr., Sacramento, CA 95822 (916) 449-5166.

Southern Regional - For more information, contact Mary Leverette, Riverbanks Zoological Park, P.O. Box 1060, Columbia, SC 29202 (803) 779-8717.

Northeastern Regional - For more information, contact Gretchen Ellsworth, National Zoological Park, 3000 Block of Connecticut Ave., N.W., Washington, DC 20008 (202) 673-4666.

Great Lakes Regional - For more information, contact Jim Anderson, Fort Wayne Children's Zoo, 3411 Sherman Blvd., Fort Wayne, IN 46808 (219) 482-4610.

Gorilla Workshop

June 22-25, 1990

Powell, OH

The Columbus Zoo is hosting a three-day Gorilla Workshop with the emphasis on behavioral solutions to behavioral problems in the captive gorilla population. For further information contact: The Great Apes Staff, The Columbus Zoo, Box 400, 9990 Riverside Dr., Powell, OH 43065. (614) 645-3426; FAX (614) 645-3465.



Births & Hatchings



Columbus Zoo...Notable events at Columbus for the months of August-October include our first Sarus crane chick and continued success with the Lake Victoria cichlids propagation program, as well as the acquisition of three cheetahs from Africa, a new black rhino, and our first pair of sandhill cranes.

Our Aquarium continues to enjoy outstanding success with its Lake Victoria cichlid program. Out of the 12 species in our collection believed to be endemic to the lake, 10 are in breeding situations (nine have spawned and the tenth is expected to do so soon). Our program started with 114 individuals of those 12 species and, as of 1 November, we now have in the neighborhood of 2,535 fish. This makes the Columbus Zoo's Aquarium currently the most successful institution to propagate this group of cichlids, all of which are considered to be severely endangered in the wild.

Significant hatchings for the Bird Dept. include 0.0.1 Sarus crane (*Grus antigone*) on 21 August and 0.0.2 Black-footed penguins (*Spheniscus demerus*) [DNS]. The Sarus crane is particularly significant because it represents a first-time hatching in our zoo for this species. The egg was pulled for incubation and the chick was subsequently hand-reared using a puppet fashioned out of stuffed animal toys to avoid imprinting on humans. The chick is doing well and continues to grow at an incredible rate. The father is about eight years old and the mother about 16. Prior to this, eggs have been found in the exhibit, which the cranes share with several species of Asian hoofstock, but they were always cracked or broken.

On 27 August, the Columbus Zoo acquired its first pair of Sandhill cranes (*Grus canadensis*) from Front Royal. These were hatched in 1988. They are currently on exhibit in our old bald eagle pen until next spring when they will be moved into our new moose exhibit currently under construction. Other notable bird acquisitions include: 0.1 Common eider (*Somateria mollissima*), 1.1 Gadwall (*Anas strepera*), and 1.0 Pintail (*Anas acuta*).

The most significant mammal birth for this period was 1.0 Cheetah (*Acinonyx jubatus*) born on 9 September. The parents are Sukari and Charlie, one of two breeding males currently in our collection. This cub is particularly significant for several reasons: he is Charlie's first male offspring to survive; he represents Sukari's ninth litter; and he is also the 30th offspring for Sukari. Therefore, Sukari, who has bred with three different males, has produced almost one-third of all cheetah cubs born at Columbus. Our cheetah breeding program is world-renowned. This cub had to be pulled for hand-rearing in our nursery because he was unable to maintain his temperature. Other notable mammal births were a 0.0.1 Red brocket deer (*Mazama americana*) on 6 September and a 0.0.1 White-handed gibbon (*Hylobates lar*) on 14 October. Unfortunately, the brocket deer DNS. She was the second offspring for our breeding pair that arrived from the Bronx Zoo in October 1988. Their first infant, a male, was born this past January. The parents of the gibbon were both wild-caught and they have produced 10 offspring at Columbus. This latest baby continues to do well.

Our three most notable acquisitions are three cheetahs imported from Africa. They were captive-born in Oudtshoorn, South Africa, and were purchased from Cango Crocodile Ranch and Cheetahland, a private facility. They arrived at the zoo on 22 August. All three are close to two years old. They add a vital new bloodline into the U.S. population, and we hope they can be integrated into our successful cheetah breeding program. At the beginning of October, we received another noteworthy arrival, a 13-month-old male Black rhinoceros

Births and Hatchings, Continued

(*Diceros bicornis*) from the San Diego Wild Animal Park. This animal is in Columbus on breeding loan, and he is due to be paired up with Kulinda Kifaru, a young female also on loan from the Cincinnati Zoo. This arrangement reflects the commitment of the Columbus Zoo to participate in the Black Rhino SSP. submitted by Carl Gyarmaty, Keeper, Columbus Zoo, Powell, OH.

Brookfield Zoo...significant B&H from June-September 1989 include:

Mammals: Brookfield Zoo had two Okapi (*Okapia johnstoni*) births this summer. On 27 July, 1.0 Ndura was born to four-year-old Elima. Elima, being a first-time mother, was quite nervous and was not treating Ndura properly, so he is being hand-reared. Sixteen-year-old Mufuh gave birth to 0.1 Kuamba on 6 August. Mufuh is a more experienced mother - this being her seventh calf. Mother and daughter are doing well together. The sire of both calves is five-year-old Dua, who was born at San Diego Zoo and have been at Brookfield since May 1988. Brookfield Zoo has been quite successful in breeding this secretive forest cousin of the giraffe. Ndura, a fourth-generation animal, and Kuamba, a third-generation animal, are the 19th and 20th okapi born here.

Also born in the Hoofstock area were 0.4 Dall sheep (*Ovis dalli dalli*), 2.1 Siberian ibex (*Capra ibex siberica*), 0.0.1 Waterbuck (*Kobus ellipsi pyrmnus*), 0.4 Common zebra (*Equus burchelli bohmi*), and 2.0 Greater kudu (*Tragelaphus strepsiceros*).

Other mammal births include 0.0.3 Rodrigues flying foxes (*Pteropus rodricensis*). These highly endangered bats from the Rodriguez Islands in the Indian Ocean are bred in only three zoos. Also born were 0.0.2 Crested porcupine (*Hystrix africaeaustralis*), 0.0.5 Rock hyrax (*Procavia capensis*) and 0.0.1 Western grey kangaroo (*Macropus fuliginosus melanops*).

Primates: the primate department announced the birth of the first viable second-generation Golden-headed lion tamarin (*Leontopithecus chrysomelas*) in North America. The twins (1.1) born 14 September to Una are being mother-reared and are doing well. The birth of 1.0 GHLT to one of our founder pairs brings the number born at Brookfield Zoo to 24. On 30 June, 0.0.2 Fat-tailed dwarf lemurs (*Cheirogoleus medius*) were born. Except for Duke University Primate Center, Brookfield is thought to be the only zoological institution known to have bred this endangered species of prosimian indigenous to Madagascar. Other primate births include 0.0.2 Guinea baboon (*Papio papio cynocephalus*), 1.1 Gole'di's monkey (*Callimico goeldii*), and 0.2 Colobus monkey (*Colobus guereza*).

Birds: one highlight for the birth department this year was the hatching of Micronesian kingfishers (*Halcyon cinnamomina*). Throughout the spring and summer, a total of six clutches were produced. The first two clutches on 21 April and 22 May produced one chick each; in accordance with the SSP request, these were pulled for hand-rearing and are doing well. Of the other four clutches, two chicks hatched on 29 July and 2 September and were left to be parent-reared, but unfortunately disappeared after about three days. Other fledglings include 0.0.1 Snowy owl (*Nyctea scandiaca*), 0.0.2 Golden tanager (*Tangara arthus*), 0.0.4 Turoquoise tanager (*Tangara mexicana*), 0.0.2 Inca tern (*Larosterna inca*), 0.0.1 Sun bittern (*Eurypyga helias*), 0.0.3 Blue-crowned hanging parrots (*Loriculus galgullus*), and 0.0.2 Common trumpeter (*Psophia crepitans*) ...compiled and submitted by Elizabeth Borst, Primate Keeper, Brookfield Zoo, Brookfield, IL.

North Carolina Chapter AAZK...reports notable B&H for 1 July-30 September 1989 from each participating institution.

Duke Primate Center...significant births at DUPC include 1.1 Crowned lemur (*Lemur coronatus*) on 23 July. The birth occurred between 1000 and 1200 hours and at about 1400 hours the female infant was found on the ground. An attempt to return this infant was complicated when the other male infant fell off the mother while she was being caught. Both infants were returned to the mother, who was placed in a holding box, and seemed fine

Births and Hatchings, Continued

until about 1630 hours. At 1630 hours a researchers heard infant screams and found the male infant under the food dish, the female infant in the corner and the mother in distress. The decision was made to pull and hand-rear the infants. Although the male infant died 26 July, the female is doing fine, eating solid food and being socialized to an adult lemur. *submitted by Ruby Ange, Research Tech DUPC.*

North Carolina Zoological Park...we are proud to report the significant hatchings of two species of birds in our R.J. Reynolds Forest Aviary. In August, 0.0.2 Red-faced liocichla (*Liocichla phoenicea*) were hatched (0.0.1 DNS). We are extremely proud to announce that we recently received the U.S. First Breeding Award from the American Federation of Aviculture, Inc., for being the first institution in the United States to breed this Asian species. In September, 0.0.3 African spoonbills (*Platalea alba*) were hatched. This makes a total of 10 hatched this year (2 DNS) and we continue to sustain one of the most prolific and successful breeding colonies of these large white birds in the country. *submitted by Cynthia Noe-Hanson, Secretary/Chapter Liaison, North Carolina Chapter AAZK.*



AAZPA Presents Awards at Pittsburgh Meeting

The following awards were presented at the annual conference of the American Association of Zoological Parks and Aquariums in Pittsburgh, PA. AAZK congratulates all those institutions so honored.

Edward H. Bean Awards

Fort Worth Zoological Park - Arboreal Boid Breeding Program
Los Angeles Zoo - Hatching of California Condor
National Aquarium in Baltimore - Poison-Dart Frog Breeding Program
Omaha's Henry Doorly Zoo - Long-Term Propagation of Gaur and Banteng
St. Louis Zoological Park - Long-Term Propagation of Gaur and Banteng
San Diego Wild Animal Park - Hatching of California Condor
San Diego Zoo - Hatching of California Condor

Significant Achievement Awards

Chicago Zoological Park - Long-Term Propagation of Goeldi's Monkey
Dallas Zoo - New World Pit Viper Breeding Program
New York Zoological Park - Leaf-Eating Primate Breeding Program
Sea Life Park - Long-Term Propagation of Green Sea Turtle
Waikiki Aquarium - Common Dolphinfinh Breeding Program

Exhibit Award

The San Diego Zoo - Tiger River

Significant Achievement Awards

Knoxville Zoological Park - Southern Apalachian Bog
Zoo Atlanta - Gorillas of Cameroon

Education Award

Washington Park Zoo - Project S.A.F.E.

Significant Achievement Awards

New York Zoological Park - Bronx Zoo Summer Seminar for Teachers
Reid Park Zoo - African Safari





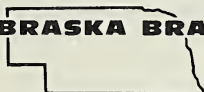
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From the President.....

The new AAZK career brochure will be available in the next few months. It has been updated with new text and photographs to keep up with the changes in our profession. Ellen Bradfield at Zoo Atlanta has headed up this project and her hard work will be evident.

I want to remind the membership to be familiar with the by-laws of AAZK. Our rules apply to you and your chapter. If you have questions about what actions you may take regarding legally binding agreements between you and other agencies, please contact the Board or Administrative Offices. Your actions reflect on, and must be explained by, the Board of Directors.

The newly formed Conservation Committee continues to formalize procedures for chapters wishing to become involved with nationally coordinated projects. I encourage you also to meet with local environmental groups within your communities to determine how your chapter may help with the specific projects of those groups. Through cooperation with allied agencies our concentrated efforts may produce greater impact.

This will be my final message to you as the president of AAZK. In January, Oliver Claffey of the Metro Toronto Zoo becomes our next president and the first Canadian to fill that office. In addition, Bob Debets of the Assiniboine Park Zoo in Winnipeg will fill the Vice-President slot. For the first time in our 22 year history both Board officers will be Canadians.

This situation clearly demonstrates the international atmosphere of our organization and that we represent North American Animal Keepers. I am confident that the Association will continue to grow and become more professional under the guidance of Oliver. My term on the Board continues through 1991. During the next two years, I will continue to serve as advisor and officially as the immediate past president in order to maintain continuity in our leadership and our formal communication with other organizations.

I have greatly enjoyed my term. The members of the Board, Administrative Offices and the organization have been extremely helpful to me as I have performed my duties. It is the membership that has expressed their wishes as to where the Association should concentrate its efforts. If we are to improve and change our profession and our conservation goals we need continued input from you, the members. Thank you for giving me the opportunity to serve you and realize all the hard work our membership has accomplished.

Frank B. Kohn
AAZK President

Frank B. Kohn



NOW AVAILABLE !!

Animal Index to Animal Keepers' Forum 1974-1986

By Judie Steenberg, Woodland Park Zoo

During this past year the monumental task of indexing Animal Keepers Forum (AKF), from 1974 through 1986, was undertaken by Pam Talbot and me, with Pam doing the bulk of the work. At long last, it has been accomplished.

The index includes all animal subjects reported in AKF from November 1974 through December 1986. Pam Talbot, and Keepers at the Woodland Park Zoological Gardens, have been working on this project over the past year and at long last it is available for AAZK members to acquire.

Copies of the Animal Index to Animal Keepers' Forum 1974-1986 may be ordered for \$5.00 each by sending check or money order made payable to "AAZK" to: AKF 74-86 Index, 635 Gage Blvd., Topeka, KS 66606.

The Index covers animal subjects only, with the exception of a veterinary section that lists animal husbandry subjects of a general nature. What seemed like a "nice little project" became a major project as time went on, even with the benefit of the computer...Why???, following are some examples of the many problems and questions encountered.

The lack of scientific nomenclature was a continuing problem:

1. Mannikin and manakin are two different birds, not closely related.
2. White eye verses white-eye...one is an Australian duck, the other a passerine.
3. Button quail are in Gruiformes, and quail are in Galliformes.
4. Anteater was used for collared, lesser, tamandua, giant and spiny without taxonomic reference.
5. Swift can be a bird or a lizard.

Other problems were incorrect spelling of scientific names, and variations in use of obsolete/current scientific nomenclature.

To deal with these problems we decided to use a major reference for the source of all scientific nomenclature. The International Species Inventory System (ISIS) Taxonomic Directories were used for classifying birds, mammals and reptiles. Frank Slaven's Inventory of Amphibians and Reptiles was also used where the ISIS Manuals were incomplete.

Although there is some disagreement with the nomenclature used in ISIS Taxonomic Directories, we feel it is necessary to have a standard reference. In several cases an updated, or otherwise changed scientific name is gives as (=) within the nomenclature.

Spelling differences of common names was extensive, following are a few examples:

1. caicique, caique, carque, carique.
2. acouchi, accouchy, acouchy.
3. turaco, touraco, tauraco.

Where there was disagreement on categorizing some species, they have been cross-referenced, or left as they appeared in AKF. The most obvious misspellings have been corrected. Some animals have been grouped, such as Fish, Insects, and Reptiles. The words "gray" and "grey" have been spelled as submitted.

The letters **CP** are used whenever the information is listed in a Conference Proceedings, and **K** identifies information in The Keeper (75). Births and hatchings are listed separately within a subject.

Woodland Park Zoo Keepers Eric Kowalczyk, Earl Matsui, Dana Payne, and numerous other Keepers, family and friends both in and outside the zoo should be commended for their patience and perseverance in reviewing the index according to the categories of birds, mammals and amphibians/reptiles.

In closing, we ask that **anyone** submitting an article, or animal information to AKF use scientific nomenclature in the future. It will not only facilitate the indexing of AKF in the future, but add credibility to our publication.

--Judie Steenberg, Keeper
Woodland Park Zoological Gardens

(Editor's Note: The 1987 and 1988 Comprehensive Indexes of AKF, which cover the entire spectrum of material published in the journal during those years, are available from AAZK Administrative Offices. Cost of these indexes is \$1.00 each. They may be ordered by sending check or money order made payable to AAZK to: AKF Index, 635 Gage Blvd., Topeka, KS 66606.

Beginning this year, the Comprehensive AKF Index will be published within the journal each year. Thus, the 1989 Index will appear in the January 1990 issue.)



AAZK Announces New Professional Members

Leslie Demby, Franklin Prk. Zoo (MA)	Gayle Fisher, Staten Island Zoo (NY)
Kimberly Alexander, Mystic Marine Life Aquarium (CT)	
Kathy Trogdon, North Carolina Zoo. Prk. (NC)	Laura Kinkaid, Zoo Atlanta (GA)
Stephanie Rutan, Jacksonville Zoo (FL)	Ron Whitener, Sea World of Florida
Daniella Wooddell, Miami Metrozoo (FL)	Thomas Ihde, Racine Zool. Prk. (WI)
Pricilla Wiggins, Lion Country Safari (FL)	Barbara Bell, Milwaukee Cnty Zoo. (WI)
Scott Blum, Racine Zool. Prk. (WI)	Wendy Schabacker, Brookfield Zoo (IL)
Jan Sustman, Brookfield Zoo (IL)	Marty Sevenich, Brookfield Zoo (IL)
Teresa Canchola, Lincoln Prk Zoo (IL)	Maryann Weiss, St. Louis Zoo (MO)
Daniel Simon, Sedgwick Cnty. Zoo (KS)	Eiler McGinn, Audubon Prk. Zoo (LA)
Vicki Noll, Houston Zoo (TX)	Laura Kelly, Houston Zoo (TX)
Gary Aguirre, Denver Zoo (CO)	Susan Neill, Phoenix Zoo (AZ)
Karen Krebs, AZ-Sonora Desert Museum (AZ)	Gary Priest, San Diego Zoo (CA)
Stephanie Costelow, Sea World of California	Trudie Hinkle, Sea World of California
Susan A. Cox, Moorpark College (CA)	Leigh Ann Rollo, Wildlife Safari (OR)
Judy Zeno, Wildlife Safari (OR)	Pam Ore, Washington Prk Zoo (OR)
Pascale Beliveau, Granby Zoo (Quebec)	Stephen Thexton, Riverview Prk/Zoo
Gail Weslosky, West Edmonton Mall (Alberta)	(Ontario)
Reta Lowry, Crystal Garden, British Columbia)	

New Contributing Members

Forth Worth Zoological Park, Fort Worth, TX

Renewing Contributing Members

Barbara Barrett, Director, Jackson Zoological Park, Jackson, MS
Dr. William E. Britz, Jr., Research Equipment Co. Inc., Bryan, TX

MEMO:

TO: All AAZK Members

FROM: Bill Whittaker, Director of Regional and Chapter Affairs

RE: Further Explanation of Changes in CRAC System

The top priority of the Chapter and Regional Affairs Committee is to build the Chapter/Regional System into a well integrated, efficient team united in purpose and action. (Because our membership and national administration are spread over the entire North American continent, achieving this goal is dependent on an effective, reliable and responsive network linking all of us together.)

When we took over in January 1989, the network consisted of individual member to chapter liaison to regional coordinator to national administration. Keepers who worked at animal care facilities that did not have a chapter, did not have a liaison, and no local link with AAZK were left out of the network. We have changed "Chapter Liaison" to "Liaison"; a professional member who volunteers to act as an AAZK communications link between the facilities, keepers and the C.R.A.C.; approved by the "Coordinator" on an annual basis. If the facility has a Chapter, the appointee must have the recommendation of the Chapter Board of Directors.

The "Liaisons" link to the C.R.A.C. is the "Coordinator" (we are dropping "Regional" from the title). This person, a professional member, volunteers to act as a communications link between the C.R.A.C. and the animal keepers in a region through the "Liaisons". We have more than doubled the number of Coordinators and are still looking for more in the states of OR, CA, UT, NM, TX (3), LA, IN, PA, NC/SC, and AK. This action was taken to reduce the individual work load and hopefully reduce burnout. Coordinators are appointed on a biennial basis by the Director of the C.R.A.C.

We have compiled a preliminary list of about 1500 animal care facilities licensed by the USDA that we are going to contact through the coordinators regarding our network and the Keeper Census/Survey.

The first real test of our network is just around the corner. The Zookeeper Census/Survey will begin 1 January, 1990. Approximately two years after its inception, this is for me a personally and AAZK in particular, a very important and exciting event. It is vital to this project that we reach every full-time animal keeper we can and our success is dependent on the network and the people who make it up. AAZK is a reflection of its membership.

Bowling for Rhinos: Coordinators please contact your Liaisons and find out who is participating. Pass this information to Nancy Pintavalli, Columbus Zoo (614-645-3400 [zoo] or 614-766-6475 [home]) ASAP. She also needs to know how many sponsor sheets each participating facility or chapter needs. Come on keepers, get involved. Let's show the whole zoo field what we can do when we all work together. Rhinos are undoubtedly not the top priority of all of us, but they are certainly one of the top priorities for all of us. Get in the spirit and bowl or work for the rhinos. Contact your Liaison or Nancy for more information.

Financial Protocol: All chapters should have begun using the new financial record forms and submitted a copy of their 1988 Annual Statement to Barbara in Topeka. All the financial forms are for the Chapter's records. Do not send them to Topeka. The only form Barbara needs is a copy of the Annual Statement and the following chapters still have not submitted one for 1988: Roger Williams Park Zoo, Beardsley Zoo, Central Park Zoo, Burnet Park Zoo, National Zoological Park, Greater Baltimore Zoo, The Virginia AAZK Chapter, Appalachian Chapter, Greenville Zoo, Zoo Atlanta AAZK, South Florida AAZK, The Cypress Coast Chapter, The Smoky Mountain Chapter, Indianapolis AAZK, Fort Wayne Chapter, Detroit AAZK, Milwaukee County Zoo AAZK, Flint Hills Chapter, Sedgwick County Zoo AAZK, Audubon Park AAZK, Houston Zoo AAZK, Cheyenne Mountain AAZK, Utah Chapter, Los Angeles Zoo AAZK, San Joaquin Valley Chapter, Greater San Francisco Bay Area AAZK, Honolulu Zoo AAZK, Chinook Chapter AAZK, Central Florida AAZK and Exotic Feline Breeding Compound AAZK Chapter. This report was due 1 August 1989.



Chapter News

St. Louis AAZK Chapter

Newly elected officers for the St. Louis Chapter are:

President.....Louise Bradshaw
V.P./Chapter Liaison.....Rick Smith
Secretary.....Betsy Berry
Treasurer.....Steve Tomy

Chinook Chapter AAZK

The Chinook Chapter of AAZK is a recently former chapter based at the Calgary Zoo, Calgary, Alberta, Canada. We have been meeting, unofficially, for over a year and a half, and have had a few projects going, but have only been chartered a few months. Calgary is located at the base of the Rocky Mountain foothills at the edge of the prairie in southern Alberta. Calgary hosted the 1988 Olympic Winter Games and the Calgary Flames now possess the prestigious Stanley Cup.

One of our first ongoing tasks is the revision of the Calgary Zoo's Animal Restraint Manual which was originally put together by our present zoo director Peter Karsten. Much of the manual is outdated and we are contacting keepers worldwide so as to include their expertise. Anyone wishing to contribute information can do so by writing the Chinook Chapter AAZK, c/o Calgary Zoo, Box 3036, Stn. B, Calgary, AB, Canada, T2M 4R8.

We held elections in June and the following are our officers:

President.....Mona Keith
Vice Pres.....Pam McDougall
Sec/Treas.....Elaine Willms
Chapter Liaison.....Garth Irvine

We have had a variety of interesting speakers over the last several months. Topics have included Japanese Macaques, Ethograms, Bird Song, Swift Foxes, Lemurs, Recycling and a speaker from the Calgary Rain Forest Action Group. All talks were thoroughly enjoyed, but if Bill Blayney were to bring his buffet to all our talks, we would have standing room only.

In early June, the Chinook Chapter sponsored Keeper Weekend. Eighteen keepers gave a variety of talks at the zoo. This was truly a rainmaker event but nonetheless it was very well received and we spoke to over 1200 people. Topics and demonstrations ranged through snake feeding, commissary tours, Project Tiger to ape husbandry. We plan to sponsor this as an annual event.

We have also sponsored a foreign keeper. We have chosen one from India. We chose a keeper who has been on the waiting list awhile. His name is Dr. Prakash Amte. He is a medical doctor, but also runs Amte's Animal Orphanage where he hand-rears and treats the sick and injured animals which are brought to him.

Our latest endeavor was the zoolympics. It was done as a fund-raising event. It was a huge success in terms of participation, enthusiasm and profit. A terrific event which will likely grow as well as become an annual undertaking.

We are very fortunate to have had a great deal of support from the Calgary Zoo in terms of funds, a venue for our events and encouragement. Our Chapter is small, but growing.

--Garth Irvine, Chapter Liaison

The Cypress Coast Chapter

On Sunday, 22 October and Monday, 23 October, the Chapter held our "First Ever Poor Man's Conference and Barbecue". Keepers from various institutions in Florida were invited to the two-day event jointly hosted by Chapter members from Dreher Park Zoo, Lion Country Safari and the Aviculture Breeding and Research Center.

Sunday's activities included a behind the scenes tour of Dreher Park Zoo, a volleyball game, and the barbecue. The highlight of the evening was our guest speaker, Betty Grogan, Regional Coordinator for the state of Florida. She spoke on the topics of Rhino Management and the recent changes in AAZK.

Monday morning started with a breakfast talk given by Rachel Rogers of Miami Metrozoo. The talk concerned reproductive evaluations

Chapter News, Continued

in female primates. The focus of the activities then shifted out to Lion Country Safari where wildlife director Terry Wolf and his staff made the day truly enjoyable. Those attending participated in tours of the park, hospital, nursery and commissary. They also had the chance to ride out on the preserve and feed a number of animals including giraffe, elephant and other hoofstock. Lunch was also served to the guests by the park.

We would like to extend a BIG thank you to everyone who participated and made this event a big success.

The Chapter would like to announce that Lion Country Safari has recently become a participating institution in our Chapter.

--James D'Amico, Chapter Liaison

Greater San Francisco Bay Area Chapter (GSFBA)

We are very relieved to let you know that none of the six member institutions (San Francisco Zoo, Micke Grove Zoo, Marine World/Africa USA, Sacramento Zoo, San Jose Zoo, and Oakland Zoo) suffered any damaging effects from the 17 October earthquake. The earthquake has affected the Chapter, however. The temporary closure of the San Francisco Bay Bridge for repairs has caused a problem in regards to Chapter meetings. Getting Chapter members together at this time requires added hours of driving due to the detours. Therefore, the next regular meeting has been postponed until further notice.

Newly elected officers of the GSFBA Chapter are:

President.....Leslie Field (Sacramento)
V.P.....Norm Gershenz (S.F. Zoo)
Treasurer.....Dave Bocian (S.F. Zoo)
Secretary.....Bill Tabb (Sacramento)
Board Rep.....Jenny Cuccinello

The GSFBA Chapter now has available Ecosystem Survival Plan T-Shirts. The front of the shirt features an original design of the rain forest by Debbie Reaves. The back of the shirt features a list of the biodiversity of the rain forest. The shirts are white with black writing and design in sizes

M, L and X-Lg. Shirts cost \$10 each, with proceeds going directly to the ESP. You can contact Leslie Field at the Sacramento Zoo for further information.

--from SPECIES, newsletter of GSFBA
Chapter, Jeff Hartgraves, editor

Omaha AAZK Chapter

The Omaha AAZK Chapter recently went on two field trips. The trips took participants to Fontenelle Forest in Bellvue, NE and Folsom Children's Zoo in Lincoln, NE. At the Forest, a two-hour hike along the stream and marsh trails was led by ranger/naturalist Russ Benedict. With Russ' help, the group identified more than 10 species of birds. The trip to Lincoln allowed Omaha Chapter members to become better acquainted with their counterparts at the Folsom Children's Zoo and establish a communication link between the two chapters. The Lincoln crew provided a very fine dinner and a behind the scenes tour for the Omaha delegation.

--from KEEPER CHRONICLES,
Omaha Chapter newsletter

North Carolina Chapter AAZK

The following activities took place in July, August and September 1989. A program was given by Dr. Ron Oglesby, a veterinarian at Crossroads Equine Center in Greensboro. He gave a very informative and interesting talk about the physiology and diseases of hooves.

In August, more Chapter T-shirts were ordered to sell to the public at the annual Fall Festival fundraiser. Plans were made for four members to attend the national conference in Stracuse.

The September meeting was dedicated to building bluebird boxes for sale at the Fall Festival. Twenty-two boxes were built, one of which would be donated for the auction at the national conference. The Chapter extends many thanks to Eric and Kathy Trogden for cutting out the pieces for the boxes.

--Lucy Segerson, President



Update: Zoo Infant Development Project

By
Harmony Frazier-Taylor, LVT
Zoo Infant Development Project Coordinator
Woodland Park Zoological Gardens
Seattle, WA

Since 1980, nearly a full decade, the Zoo Infant Development Project has made slow but persistent progress. With the input of many AAZK members, especially Steven Wing and Marcia Clevenger, this important national AAZK project has stayed alive. The purpose of this project is to provide a source of reference for the physical and behavioral development of normal family-reared zoo specimens, on a national basis. It will not only establish normals for many species but be a source for comparison and a reference in the case of an infant requiring hand-rearing. If participation is strong, we will be able to provide a reference guide to share not only with each other but with those working with wildlife in the field as well.

NOW IS THE TIME FOR YOUR INPUT TO MAKE THIS PROJECT A REALITY.

Let me ask two questions.

1. *Do you work at an institution that had births or hatchings within the last two years?*
2. *Do you keep a daily log or write a keeper report each day? Or even weekly?*

If you answered yes to the first question then you have access to the information we need.

If you were able to answer yes to both questions then you not only have the information we need, you quite possibly have easy access to it. Many of the notations that are often in a keeper report about infant development are EXACTLY the information that is needed.

If your institution had cause to hand-rear any animals in the last few years or there were questions about the development of an infant within a group, the ZOO INFANT DEVELOPMENT PROJECT, once completed, will be able to answer many of these questions and serve as a reference about the development of the same species from around the country.

Now is your time to help make this information accessible to everyone.

The data collection form (see insert in this issue) is now ready for your use. The instruction sheet (following this article) explains the categories and the rest of the form is self-explanatory. Please use them for upcoming births as well as past births. As I mentioned earlier, there is a lot of good information in daily keeper reports that is just waiting to be placed in the notebook.

It is my hope that there will be at least one person from each zoo who will assist in the data collection at their institution. If each zoo contributed only five forms each year we would have a very substantial amount of information. The forms will be compiled for the next one to two years, transferred into a computer program, and at the end of two years the first handbook will be published and available through AAZK. Updates will then be available annually. The merit of the notebook will be in the type and amount of information it contains. Please submit all you can.

Some of the questions I have had that would be answered by our notebook, if everyone participated, are:

Should we be worried that the female gorilla puts her WEEK-old first infant on her back?

Update: Zoo Infant Development Project, Continued

When does a Straw Colored Fruit Bat wean her infant? Or is our female rejecting her infants?

How many other zoos are seeing heavy eye grooming in their Lion-tailed Macaque troop?

Is it normal for Springbok to toss their newborn fawns into the air?

Our Red Panda cub was seen out of its den at 78 days. Is this the average age to expect this behavior? Or are the den boxes too hot with the summer heat?

Sharing your information about normal development will not only answer questions like these above but could also allow zoos to make major advancements in reproduction by reducing much of the need to "re-invent the wheel".

THE ZOO INFANT DEVELOPMENT PROJECT HAS THE POTENTIAL TO BE A KEY ELEMENT IN SUSTAINING CAPTIVE POPULATIONS OF WILDLIFE. Will you help?

I really look forward to seeing your data sheet flow in and the project become a working manual. Thank you for your interest!

IMPORTANT NOTE: At this time only the mammal area is in preparation. We need two individuals, one for birds and one for reptiles, who are excited by the potential of this project and willing to invest a little time. Please contact me as soon as possible so that we can get started right away.

There is a copy of the Zoo Infant Development Data Sheet in the center of this month's AKF. Please use this as your master copy and make copies of it in order to submit your information. Also, make sure the Release Form is properly signed prior to sending in your completed forms.

Acknowledgements:

I would first like to thank William B. Karesh, DVM, Research Coordinator at Woodland Park Zoo for continuous help and support in all phases of this project over the past year. The Puget Sound Chapter of AAZK should be recognized and commended for buying a computer for the project as well as offering to help with data collection and entry at Woodland Park. The staff at Woodland Park has shown a keen interest and understanding of this project and has offered a great variety of support. I am glad to be working with them and have them to rely on in the coming years of this project. I would also like to thank ALL those individuals who have helped with this project over the years and kept it alive.



Zoo Infant Development Data Sheet Instructions

The zoo infant development project will provide information on the physical and behavioral development of a variety of parent/family-reared zoo specimens. By collecting data from a large number of institutions, the information will provide a basis for comparison for different species as well as serve as a guide for infants requiring hand-rearing. We may also begin to notice trends that lead to more successful rearing.

PLEASE FOLLOW THESE GUIDELINES:

1. The format was developed for easy retrieval of information. Please do not let it restrict your contribution. Place additional information on the third page and it will be included in published results.
2. Be as THOROUGH AS POSSIBLE. Lack of information in some of the requested categories does not make your report invalid, please submit all you can, but DO SUBMIT IT.
3. Use one form per birth.
4. Use a separate page #3 for each sibling.
5. AGE SPAN: Note age in days that the report covers.
6. DATES: Use international date format with month abbreviated. Please follow dates with age in days. Example: Date of Birth: 6 Sep 89=day 0.
7. WEIGHTS: Use metric. If you have converted from pounds, you may place your original figure in parenthesis following metric weight. Example: 5.45 Kg (12 lbs)
8. AGES: Where age is requested please use number of days.
9. TIMES: Use 24 hour clock. 1:00 p.m. is 1300 and so on.
10. BEHAVIORAL DEVELOPMENT: Use brief, descriptive phrases. If you wish to elaborate, use page #3.
11. SIGNIFICANT DEVELOPMENTS: This will vary with the species. We felt the keeper would be the best judge as to which developments are significant to the species.

Examples:

Marsupialia - head out of pouch
- seen out of pouch

Pinnipedia - able to swim

Artiodactyla - horn/antler buds appear
- length of hiding period
- first stands

Primates - off mother
- play behaviors

Chiroptera - hangs alone
- flies

Carnivora - first time mother leaves
cubs/pups alone

Ursidae - out of den
- climbing

12. FINAL DISPOSITION: If the animal described is shipped, please note age, date, destination and if shipped individually or with others.

If the animal dies, please note age, date and final cause of death.

NOTICE: All information submitted is intended for publication. Please follow your institutions guidelines and get necessary approval before sending information.

SEND COMPLETED FORMS TO:

Harmony Frazier-Taylor
Woodland Park Zoological Gardens
550 Phinney Ave. N.
Seattle, WA 98103

I can be reached at: (206) 684-4866

Feel free to duplicate and freely distribute these instructions and forms, or, if you like, you may request forms directly from me.

Birth on or off exhibit: _____ Weather conditions: _____
Female separated for birth: _____ If yes, when: _____
When reintroduced: _____
If no, other animals present: _____
Only male removed ? : _____ If yes, when: _____
When reintroduced: _____
Date of birth and time: _____
Labor duration/signs: _____

Infant (s) cleaned?: _____

I.D #	Sex	Birth weight
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

FOOD INTAKE/ELIMINATION

Suckling first observed: _____ Stimuli to induce suckling: _____

Nursing position: _____

Frequency/duration of nursing (with ages): _____

Age first solids: _____ Preferred solids: _____

Age first H₂O: _____ Type of drinker: _____

Age at weaning, Start: _____ Complete: _____

Stimulated for urination/defecation: _____ How: _____

Stool consistency/color and changes: _____

Age when urinates/defecates without stimulation: _____

PHYSICAL DEVELOPMENT (attach page 3 if needed)

Weights (date, age, metric weight): _____

Tooth eruption ages: _____

FOOD INTAKE/ELIMINATION

Suckling first observed: _____ Stimuli to induce suckling: _____

Nursing position: _____

Frequency/duration of nursing (with ages): _____

Age first solids: _____ Preferred solids: _____

Age first H₂O: _____ Type of drinker: _____

Age at weaning, Start: _____ Complete: _____

Stimulated for urination/defecation: _____ How: _____

Stool consistency/color and changes: _____

Age when urinates/defecates without stimulation: _____

PHYSICAL DEVELOPMENT (attach page 3 if needed)

Weights (date, age, metric weight): _____

Tooth eruption ages: _____

Age eyes open: _____ Age Independ. locomotion: _____

ADDITIONAL DATA/COMMENTS



AMERICAN ASSOCIATION OF ZOO KEEPERS

ZOO INFANT DEVELOPMENT PROJECT RELEASE FORM

All information submitted is intended for publication.

I have complied with the guidelines of my institution regarding publications and have received all necessary approval.

SIGNATURE

PRINTED NAME

DATE _____

This Release Form MUST accompany all data collection forms and information before it can be published.

THANK YOU FOR YOUR COOPERATION.

Dedicated to Professional Animal Care

BEHAVIORAL DEVELOPMENT (note ages)

Amount of parent/infant contact: _____

Contact with others: _____

Amount of human contact: _____

Activity patterns: _____

Play behaviors: _____

Significant developments: _____

Final disposition/date: _____

A.A.Z.K. INFANT DEVELOPMENT DATA SHEET

Common name:

Submitted by:

Scientific name:

Position:

Institution:

Address

Age span:

Telephone:

Submission date:

REPRODUCTIVE HISTORY

Dam I.D./age: _____ Sire I.D./age: _____ Gestation: _____

Previous births: _____ # Infants successfully raised (this dam): _____

Diet supplements during pregnancy: _____

BIRTH ENVIRONMENT

A Survey of the Status of Chimpanzees (*Pan troglodytes*) in Japan

By
Yoshi. Yonetani
ZooDEL, Zoo Design & Education Lab
Kobe, Japan

This survey was precipitated by a letter received last year from Chris Garland, then President of the North Carolina Chapter of AAZK. Chris wrote at the request of Dr. Jane Goodall who sought our assistance in answering the following questions concerning the status of chimpanzees in Japan:

1. How many zoos currently maintain chimps?
2. How many chimps are held in these facilities? Including - a) number of groups, b) group size, c) number of males, d) number of females, e) number of infants.
3. What type of exhibits are the chimps maintained in? Asked to give a brief description of exhibit including length, width, height, acreage, furniture, etc.
4. Are there any laboratories where chimps are used for experimental purposes? (If yes, please give number of chimps, type of research and laboratory conditions, if possible).

This census has been taken since then and the results forwarded to Dr. Goodall. Some further replies included the zoo personnel in Tokyo have reached her already, I think. Taking advantage of this opportunity, I would like to make public a partial report of the recent ape survey in our country through the pages of this world-wide journal, AKF. There is no doubt that this information will prove useful to many primate keepers and other people concerned about great apes, especially chimps, both outside of Japan and here at home. My report contains information from circuses and other animal facilities as I was able to ascertain it, although this information was quite limited in some aspects. This is particularly true in respect to chimps used in shows and commercial productions in Japan. We had a few cases of gorillas and orangutans being used in shows in the past. In small local private facilities or animal dealer's compounds (by their secret management on enterprising), the author couldn't determine exactly how many anthropoids were used in shows/commercials at this moment.

The author tried to think better of it and has also supplied some additional data from the newest animal inventory of their annual report 1988 (those mentioned items based on the year-end of '87) of the Japanese Association of Zoological Gardens and Aquariums (JAZGA: Japan Zoo Aquarium Assoc. called for convenience sake). This survey was compiled and arranged in early September of 1988. The statistics must be viewed keeping in mind some increase due to births and acquisitions and decreases due to death and release from the census. However, this document will serve as a 'yardstick' to review the trend in captive apes in Japan in the future, we hope. Principal finding of the survey (mostly of their population numbers) will be discussed below.

I'll introduce their present situation of chimpanzees mainly. Those listings of gorillas and orangutans are dealt with for reference matter (all of our gorillas are the western lowland subspecies - *G. g. gorilla*). As official members of JAZGA, 50 zoos and 2 Aquarium maintain chimpanzees. Additionally, some chimps are kept by three Japanese circuses, 3 Animal Production companies, one chemical laboratory (a private company), one institution of a national university, and non-official compounds (in last 2-3 years, 3 places at least).

Their total numbers are 205 (72.133) in the member's exhibits of JAZGA, and the others total 91(35.47 plus 8 or 9 unsexed) and several individuals (on incomplete information for their locations or missing chimps). The minimum is one specimen at a facility and the largest

A Survey of the Status of Chimpanzees in Japan, Continued

group is 66 individuals at one place. One needs to take into account that births, deaths, etc. since the survey would alter these figures somewhat. The above mentioned list's names are carried as an attached table (See Table I). Those JAZGA members are listed on the table in accordance with geographic position from northern area (Hokkaido-island) to southern area (Kyushu-island & Okinawa).

For details (e.g., their ages, a brief description of exhibit and scale, acreage, furniture, etc.) of each facility, you may contact them directly. I have sent the addresses of JAZGA member institutions to The Jane Goodall Institute for Wildlife Research, Education & Conservation (Tucson, AZ) and the AAZK Administrative Offices. You may get the institution's addresses from these sources.

About 'special notes' on Table I

- *1 keeping in the northeast Zoo of Japan
- *2 keeping in the easternmost Zoo of Japan
- *3 this male is the oldest chimp in Japan
- *4 the largest group in Zoo-captivity in Japan
- *5 their one female is the oldest in Japan
- *6 the first successful hand-raising of a chimp (a female) in Japan: June 1963
the first recorded birth of twin chimps (2.0) in Japan: Aug. 1964
the first birth of a third generation chimp in Japan: May 1976
- *7 the first breeding in Japanese Zoo-world
- *8 only 1 chimp riding on the back of bottle-nosed dolphin (water-ski playing)

ZOO/AQUARIUM member: JAZGA	chimp	orang-utan			sub-sp ?	gorilla	pygmy chimp	special notes:
		Borneo	Sumatra	hybrid				
Sapporo- Maruyama Zoo	4/5	2/2				1/1		
Asahikawa- Asahiya Zoo	2/2					1/1		*1
Obihiro Zoo	1/2							
Kushiro Zoo	1/2				1/1	1/0		*2
Akita- Omoriyama Zoo	1/1							
Yagiyama Zool. Park	4/3				1/1	1/1		
Hitachi City- Kamine Zoo	2/4					1/1		
Utsunomiya Zoo	2/3							
Gunma Safari World	1/1							
Tobu Zool. Park	1/2					0/1		
Ueno Zool. Gardens	1/2	1/1	0/2	0/2		1/1		*3
Tama Zool. Park	4/14	3/5				1/2		*4
Chiba Zool. Park	1/5	2/1						
Nogeyama Zool. Gardens-Yokohama	1/2	2/2						
Kofu-Yuki Park Zoo	1/1							
Takaoka Kojo Park Zoo	1/1							
Kanazawa Zoo	1/3	1/0				1/1		
Komoro Zoo	1/0							
Suzaka Zoo	1/1							
Nagano- Chausuyama Zoo	1/2	1/0						
Mishima City Park- Rakujuen	1/0				1/1			
Walking Safari- Izu Bio Park	2/1							
Izu Cactus Park	5/9							
Shizuoka Municipal Nihondaira Zoo	1/2	2/1			1/0	1/1		
Hamamatsu Municipal Zoo	1/2				1/1	1/1		

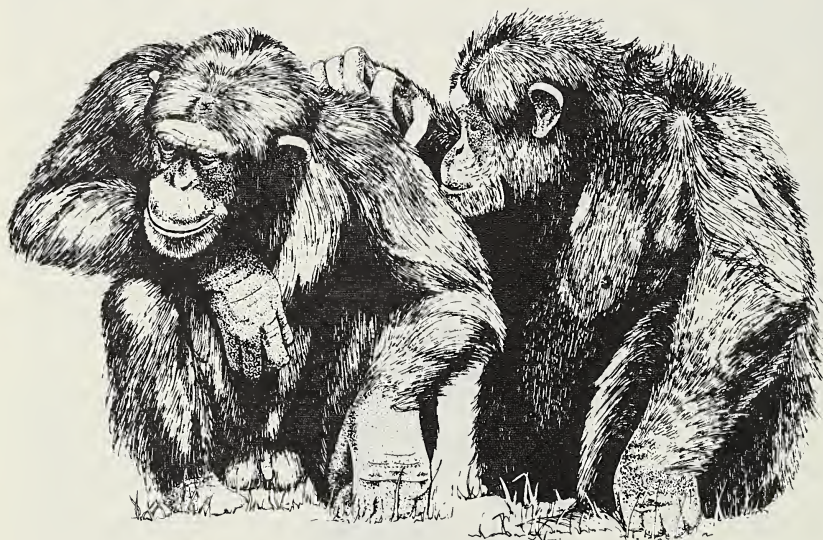
A Survey of the Status of Chimpanzees in Japan. *Continued*

ZOO/AQUARIUM member: JAZGA	chimp	orang-utan			sub-sp ?	gorilla	pygmy chimp	special notes:
		Borneo	Sumatra	hybrid				
Toyohashi Municipal Zoo	1/1	1/0	0/1	1/1				
Higashiyama Zool.& Botanic. Gardens	1/5		4/6			2/2		
Japan Monkey Centre	2/6	2/3				0/1		
Kyoto Municipal Zoo	1/1	1/2				3/1		
Nenki Shirahama Adventure World	2/5							
Osaka Municipal Tennoji Zoo	1/5				2/3	1/1		*5
Hirakata Park	1/1				1/1			
Takarazuka Zool.& Botanic. Gardens					0/1			
Kobe-Oji Zoo	2/5				1/1	1/1		*6
Himeji Municipal Zoo	1/1				0/1	1/0		
Ritsurin Park Zoo	1/1	1/0	0/1			2/1		
Tokushima Zoo	0/1	1/0						
Ehime Prefectural Tobe Zoo	3/1					1/1		
Kochi Zoo	1/1							
Asa Zool. Park- Hiroshima	1/2					1/1		
Fukuyama Zoo	1/0							
Tokuyama Zoo	1/1							
Itozu Zool. Park	1/1	1/0						
Fukuoka Municipal Zool.& Bot. Gardens	2/2	0/1				1/1		*7
Omura Zoo	0/2							
Beppu Cable Rakutenchi	1/6					1/1	1/0	
Kumamoto Zoo	1/2							
Phoenix Natural Zoo	2/5					1/0		
Hirakawa Zool. Park	1/1		1/0	2/0		1/0		
Nagasaki-bana Parking Garden	2/3							
Okinawa-Kodomonokuni Zoo & Aquarium	0/2							
Izu Mito Sea Paradise	0/1							*8
Kanazawa Aquarium	0/1							
total (I)	72/133	21/18	5/10	3/3	9/11	26/22	1/0	



A Survey of the Status of Chimpanzees in Japan, Continued

ZOO/AQUARIUM member: JAZGA	chimp	orang-utan			sub-sp ?	gorilla	pygmy chimp	special notes:
		Borneo	Sumatra	hybrid				
<u>non-organizers:</u>								
Shiratori Zoo	3*							
Kannawa Zoo	1*					0/1		
Animal-Production;								
Cox	1/0							
Shonan	0/1							
Ikeda	1*							
Kinoshita Circus	0/2							
Kigure Circus	1/1							
Kakinuma Circus	1*							
Animal dealer	2~3?							
Primate Laboratory	3/7							
Chemical industry Co.	30/36							
total (II)	35/47 +8-9					0/1		
the sum total	107/180 +8-9	21/18	5/10	3/3	9/11	26/23	1/0	



A Survey of the Status of Chimpanzees in Japan, Continued

Recently the JAZGA or Japan Primate Society set forward a program to register chimps (and other great apes) in our country. It was investigated about each registered No., name, sex, arrival date into the last destination, or origin. As typical instances of apes for longevity in captivity in Japan, it shows this data as follows. *M--male; F--female

Chimpanzee

Maruyama Zoo/F: more than 20 years old (keeping term in captivity/18 years)

Asahiya Zoo/F: estimated 26 (21 years)

Ueno Zoo, Tokyo/M: 44 (37 years *the oldest one in our country)

Tama Zoo, Tokyo/2F: 33 (30 years both)

Nogeyama Zoo/M&F: 24 (22 years)

Komoro Zoo/M: 18 (15 years)

Izu Cactus P./F: unknown age (16 years)

Toyohashi Zoo/M&F: unknown ages (15 years, 7 months)

Tennoji Zoo, Osaka/F: 40 (38 years, 1 month)

F: 27 (24 years, 7 months)

F: 24 (22 years, 3 months)

F: 18 (15 years)

Oji Zoo, Kobe/M: 34 (33 years)

F: 34 (25 years)

Kochi Zoo/M: 26 (10 1/2 years)

Fukuoka Zoo/M: 26 (26 years, 3 months: born on 12 June, 1962 as our first record)

Cable Rakutenchi/F: 30 (19 years, 7 months)

F: 18 (16 years, 5 months)

M: 18 (about 16 years, 2 months)

Orangutan

Maruyama Zoo/M: more than 25 (more than 21 years)

F: more than 24 (about 22 years)

Ueno Zoo, Tokyo/F: 36 (33 years)

F: 27 (27 years: born on 29 May, 1961 as our first breeding)

Tama Zoo, Tokyo/F: 32 (30 years)

Kanazawa Zoo/M: unknown age (25 years, 3 months)

Toyohashi Zoo/F: unknown age (20 1/2 years)

Higashiyama Zoo, Nagoya/M&2F: 26 (24 years)

Japan Monkey Centre/M: 24 (23 years, 3 months)

Tennoji Zoo, Osaka/F: 29 (22 years, 3 months)

Himeji Zoo/F: 21 (19 years, 5 months)

Gorilla

Yagiya Zoo, Sendai/M&F: 18 (17 years, 5 months)

Ueno Zoo, Tokyo/M: 35 (31 years) *the 1st arrival to a Japanese zoo 17 Nov. 1957

Higashiyama Zoo/Nagoya/F: 31 (29 years) *the last survivor of a trio (1.2) of the only gorilla show in Japan which was closed by 3 June, 1968.

Kyoto Zoo/M: 17 years and 10 months old: born on 29 October, 1970 as the first breeding success in Japan.

Tennoji Zoo, Osaka/M: 23 (22 years, 1 month)

F: 22 (20 years, 8 months)

Himeji Zoo/M: 20 (19 years)

Ritsurin Park Zoo/M: 28 (26 years)

A Survey of the Status of Chimpanzees in Japan, Continued

General Classification of Exhibit Form for Chimpanzees:

The author doesn't refer to all great apes, because there is the following examples: 'open-enclosure' for only chimps and the others (gorilla & orang) in 'cage' like at Japan Monkey Centre.

Open-enclosure by moat-system

- (I) dry-moat (concrete ground mostly except a few places with a soil, a grass^{*1} and other special effects^{*2} excluding ropes, chains, bars or blocks.

Maruyama Zoo	Kushiro Zoo	Yagiya Zoo, Sendai
Hitachi-Kamine Zoo	Ueno Zoo, Tokyo ^{*2} with a protective net for visitors	Chiba Zoo ^{*1 *2} with a mound/ mirror
Hamamatsu Zoo ^{*1}	Toyohashi Zoo	Higashiyama Zoo, Nagoya ^{*1 *2} with a protective net
Japan Monkey Centre ^{*1}	Adventure World ^{*2} with a electric wire and a mound	Tennoji Zoo, Osaka
Hirakata Park	Asa Zoo, Hiroshima	Cable Rakutenchi

15 Total Facilities

- (II) water-moat

Tama Zoo, Tokyo^{*1 *2} with an electric wire and an artificial termite mound, a mirror or other playing kits as the first trial in Japanese zoos

Izu Cactus Park^{*1 *2} with a mound

Izu Bio Park^{*1}

Hirakawa Zoo, Kagoshima

5 Total Facilities

- (III) cage

Asahiya Zoo	Obihiro Zoo	Akita-Omoriyama Zoo
Utsunomiya Zoo	Gunma Safari World	Tobu Zoo
Nogeyama Zoo	Yuki Park Zoo	Takaoka Zoo
Kanazawa Zoo	Komoro Zoo	Suzaka Zoo
Nagano-Chausuyama Zoo ^{*2}	with a food properties	Rakujuen
Nihondaira Zoo, Shizuoka		Kobe-Oji Zoo
Himeji Zoo	Ritsurin Park Zoo	Tokushima Zoo
Kochi Zoo	Tobe Zoo	Shiratori Zoo
Fukuyama Zoo	Tokuyama Zoo	Itozu Zoo
Fukuoka Zoo	Omura Zoo	Kumamoto Zoo
Phoenix Natural Zoo	Parking Garden	Kanawa Zoo
Okinawa-Kodomonokuni		

32 Total Facilities

Two facilities, Mito Sea Paradise and Kanazawa Aquarium house their chimps in cages, but the animal are not on public exhibit but rather are seen only during the stage show. Most chimps found in other non-JAZGA facilities are housed in cages and those at the chemical industry company are kept in a pit.

A Survey of the Status of Chimpanzees in Japan. *Continued*

At the present time, six zoos use chimps in shows, including educational demonstrations. They are: Hitachi-Kamine Zoo, Izu Cactus Park, Adventure World, Tobe Zoo, Phoenix Natural Zoo and Parking Garden. In the past, there were many more Japanese zoos which had chimp shows, including both zoos in Tokyo. However, these shows decreased by a social claim from the organizations for the prevention of cruelty to animals nowadays. In my opinion, various kinds of animal shows including chimps which extract their abilities by judging from this point of view on animal behavior, will develop a tendency to increase in our Zoo-world once again in the near future. It must draw a line between Zoo-facility and show-entertainment with circus.

Laboratory Uses Chimps for Experiments in Japan

The author is aware of at least two laboratories which utilize chimps. For one, the Primatological Institute at the Kyoto University deals with a significant research with philological communication including the use of sign language with chimps. They have 10 (3.7) animals now. The oldest one in their group is a 23-year-old female and an elder male is 22 years old. This national university's Science Faculty is a superior one in our country and this place has produced a number of talents for the study of primatology. Their lab has produced three chimpanzees by artificial insemination (i.e., 6 year-old male, 6 and 5-year-old females).

Another lab belongs to a private chemical company, Sanwa Kagaku. They research pharmacological studies on the hepatitis virus and other diseases. They have 66 chimps, the largest group in captivity in Japan. They ought to get additional babies at this moment.

Japanese zoos cannot easily obtain chimps from the wild due to CITES restrictions. It is now necessary for them to assure their supply of animals through captive breeding. It is expected they will set forward a program on the basis of the registered data on captive chimps. Some breeding loans shall be carried out actively with scrupulous care given to their studbook from now on. It seems a very important thing that the person concerned seriously considers these blood relationships.

Supplementary Facts: Historical Special Mentioned Events of Great Apes in Japan

According to the historical record on great apes here, an orangutan (Bornean) arrived in 1792 (*the mid of Edo-period in our country) by the Dutch and was the first great ape to arrive in Japan. In about 1921, the first chimp came to Japan with a circus from Italy. The first gorilla (a pair estimated at three years of age) arrived on 23 December, 1954 which was purchased by the Japanese Traveling Zoo, Nippon, which is no longer in existence.

In Japanese Zoo-world, a male orang (unknown subspecies and age) arrived in 1898 at our country's oldest zoo, Ueno Zoo in Tokyo (opened in March of 1882). He did not survive long. The first gorillas (2.1) for Japanese zoos were officially established at the Ueno Zoo in November of 1957.

Acknowledgments:

Lastly, I wish to express my thanks for his special assistance to Mr. Takanobu Ohno, animal keeper at the Tennoji Zoo, Osaka, for helping me to conduct this survey. We hope these findings go a long way toward the future trend for great apes.



Trial and Error (and error, and error...)

By
Pete Riger, Carnivore/Primate Keeper
and
Dr. Steve Kerr, DVM
Riverside Zoo, Scottsbluff, NE

When Spike, our mischievous young male Mandrill (*Papio sphinx*), was able to unlatch the bolt holding a shift door open in place, he forgot to let go of the shift bar as it was going up and had his arm caught in the 4" x 4" cattle panel making up his holding pen. This unfortunate chain of events fractured his lower right radius and ulna (forearm). After much debate on whether to surgically pin or cast the fracture, it was decided a cast would be the least invasive and least likely to result in an infection.

Take One: 28 July 1989. Spike was anesthetized with Ketaset* and a light-weight fiberglass cast was applied. It was decided to leave the cast as straight as possible, with little or no bend in the elbow, to help the healing process as well as cut down on the possibility of cast sores. As soon as Spike was awake, he began chewing on the top of the cast directly below the shoulder and by the next day he had loosened it to the point where he was able to pull it off.

Take Two: 29 July 1989. "Lights out" again for Spike. This time we placed a small bend in the elbow hoping it would not slide off as easily. We made the cast heavier as well by using twice the amount of fiberglass wrap. Once again he began chewing on the cast as soon as the Ketaset wore off. Away it went, strip by strip. It seemed obvious that this course of action was deteriorating.

Take Three: 30 July 1989. Spike was anesthetized again and at this point it looked as if he was beginning to like the initial effects of the Ketaset. This time we applied some imagination, and an auto-body repair kit containing Bondo* fiberglass resin; we replaced the cast and reset the bend in the elbow. We used the fiberglass resin to coat the top of the cast where he had been chewing. This lasted two weeks at which time he started the strip off the section around his wrist. Why didn't we put the resin on the whole cast? I don't know. We just didn't.

Take Four: 16 August 1989. One more time with the Ketaset as we recoated the whole cast with fiberglass resin. This finally discouraged Spike and the cast lasted until removal in mid-September. But, now armed with an indestructible cast, Spike set about charging his exhibit window and using his arm as a sledgehammer, thus frightening observers with his wild antics.

At the time of removal, radiographs indicated that the bones had healed well and Spike is back to his old self; running wildly through his exhibit and threatening those who peek through his window.

*Materials mentioned:

Ketaset (Ketamine Hydrochloride), Bristol Veterinary Products, Syracuse, NY.
Bondo Fiberglass Resin, Dynatron/Bondo Corporation, Atlanta, GA





Book Review

Translocation of Wild Animals

ix + 333 pgs., index. 1988

Leon Nielsen and Robert D. Brown, editors

Wisconsin Humane Society

4151 North Humboldt Avenue

Milwaukee, WI 53212

Price: \$19.95

*Review by Michael J. Demlong
Exhibit Design Coordinator
Wildlife World Zoo
Litchfield Park, AZ*

Translocation, is a concept perhaps best defined as "The transport and release of free-ranging, wild animals primarily for conservation or ecological reasons in a location different from which they came, but where the species may presently occur or historically occurred naturally" (Nielson, 1988).

Habitat loss and destruction, primarily due to the exponential growth of *Homo sapiens*, is what facilitates the translocation "tool" in conserving endangered taxa. Note however that this "tool" is designed to be used only in conjunction with habitat preservation and protection, for by itself, translocation is of little consequence.

This publication originates from a cancelled symposium on the subject of wildlife translocation. Although cancelled due to lack of interest, the volume's editors, Nielsen and Brown, believed this subject was too valuable to be disregarded and thus were stimulated to publish as many of the previously submitted papers as possible. The editors, an unlikely combination of a fish & wildlife department head and an executive director of a humane society, undertook such publication with these avowed goals:

1. A source of information and reference to wildlife management agencies for help in setting translocation policies and procedures.
2. Assistance in the form of advice and guidance for conservation management in considering translocation decisions.
3. To generate additional interest in wildlife translocation so to encourage further research.

These goals are achieved by the collection and assembly of 21 papers most empirically written and examining some specific aspect of translocation. Examples of topics covered include: capture techniques, immobilization, policy guidelines, and ethical considerations.

Although a few of these authors use graphs or B&W photographs to clarify their findings, generally this volume is weak in visual stimulation.

The volume's wide variety of papers necessarily contains many strengths and weaknesses, but to describe each and every one is beyond the scope of this review. Nevertheless, one overall weakness repeatedly seen is the amount of text oriented toward North American game animals and particularly the ungulates. Despite the slanted subject matter, the volume's strength exceeds any shortcomings and most members in the zoological profession should be able to extract many applicable ideas. A select few of these papers may be more directly useful for zoological concerns and will be briefly reviewed.

Book Review. *Continued*

Leon Nielson's paper, titled Definitions, Considerations, and Guidelines for Translocation of Wild Animals, presents an encompassing overview of the subject. Nielson discussed the reasoning, planning, preparation for translocation, including capture techniques, transportation, and final release of the animals into the new habitat. In general his paper touches on the basic philosophies and theories regarding translocation.

Moving to a more specific and technical aspect of translocation is, Chemical Immobilization of Wildlife: Recent Advances by Albert W. Franzmann. Franzmann reviews recent experiments involving commercial immobilizing drugs and discusses some problems arising from the use of such drugs on wildlife since 1982.

The current crisis situation facing rhinos today makes this paper by V.R. Booth and A.M. Coetsee of special interest. The Capture and Relocation of Black and White Rhinoceros in Zimbabwe reviews the process by which the National Parks and Wildlife Management moved 59 black and 12 white rhinoceros in Zimbabwe. Detailed information is provided on such things as the size and construction of shipping crates, animal loading procedures and dietary requirements, as well as any special problems encountered. Additionally, the data here on respiration rates, drug types used, and up & down times makes this particular paper a special find.

Highlighting these three papers does in no way suggest their sole importance or value, but instead is meant only as a sampling of the topics covered in this volume. The wide scope of papers will benefit animal caregivers, curators, veterinarians, wildlife population managers, or others interested in additional methods for species preservation. Translocation of Wild Animals is a worthy addition to any reference library.



Pittsburgh Keepers Acquire Pesticide Licenses

In a recent move to comply with changes in Pennsylvania state law, six Pittsburgh animal keepers and one member of the horticulture staff passed the PA Department of Agriculture's pesticide applicators examination. Under the direction of horticulturist Frank Pizzi, keepers were provided with educational materials covering selected categories: core or basic level; vertebrate pests; invertebrate pests; pests of stored grain; trees and ornamentals and indoor plantscape.

At the Pittsburgh Zoo, animal keepers may be required to handle pesticides, rodenticides and herbicides as part of routine maintenance in and around animal exhibits. Since the new PA regulation, effective September 1989, mandate that anyone using this class of chemicals be certified, zoo officials began preparations for testing with study materials provided by Pennsylvania State University's cooperative extension office. Keepers Ken Billin, Regina Grebb, Tom Hayes, Henry Kacprzyk, Debbie McGuire and Kathy Robbibaro and the horticulture department's Andrew Guthrie have attained certification as an initial step in implementing an integrated, environmentally sound pest management program for the zoo. Such a program also includes attention to housekeeping, biological controls, animal management and mechanical controls in addition to chemical means. The cost of the study materials, including testing fees, was \$110.00 per person and was covered by an IMS general operating support grant and by funds raised through zoo educational programs.

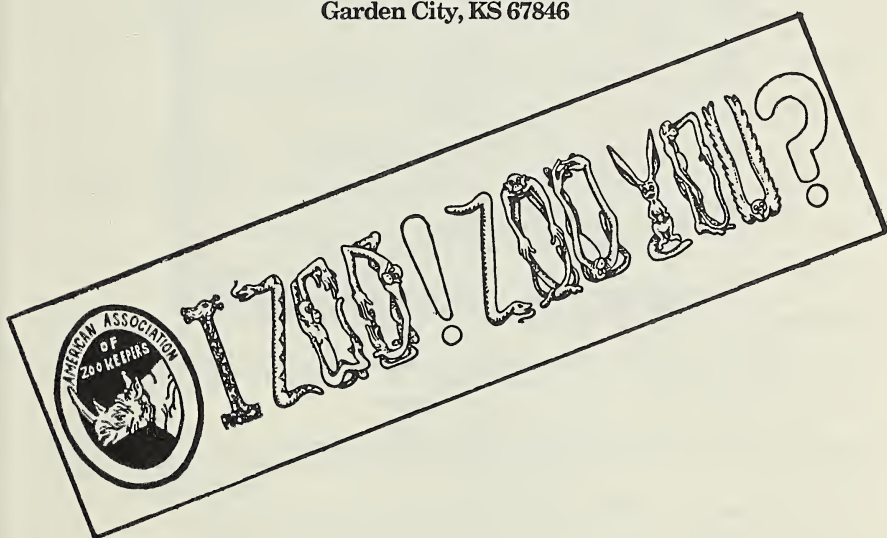


AAZK Bumper Stickers

The High Plains AAZK Chapter now has bumper stickers available to purchase. The bumper sticker is designed to appeal to any zoo supporter. Buy one to put on your own car to promote zoos. Or your AAZK Chapter can purchase a large quantity to sell to your own zoo's visitors.

The sticker is 3' x 11", black and white vinyl. The cost of the sticker is \$2.50, which includes postage. Quantities of 100 or more will be sold at a reduced rate of \$2.00 each. Please send order form below along with check or money order made payable to "High Plains AAZK Chapter" to:

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High Plains AAZK Chapter
c/o Joanna Arneson
P.O. Box 499
Garden City, KS 67846



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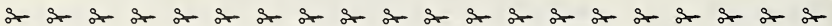
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The Diet Notebook is a copyrighted publication of the American Association of Zoo Keepers, Inc., and may be ordered by filling out the following form and sending it, along with a check or money order (U.S. FUNDS ONLY) made payable to "AAZK Diet Notebook" to: Diet Notebook Order, AAZK, 635 Gage Blvd., Topeka, KS 66606 U.S.A.

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Institutions wishing to advertise employment opportunities are asked to send pertinent data by the 15th of each month to: Opportunity Knocks/AKE, 635 Gage Blvd., Topeka, KS 66606. Please include closing dates for positions available. There is no charge for this service and phone-in listings of positions which become available close to deadline are accepted. Our phone number is (913) 272-5821 Ext. 31. Our FAX number is 913- 272-2539.

ELEPHANT KEEPER...position requires 2-5 years of demonstrated experience in the handling and training of African and Asian elephants at a zoo or other recognized institution. Also responsible for the care and breeding of Indian rhinoceros and Malayan tapir. High school diploma or equivalent required. Prefer college degree in biology or a related field. Approximate salary \$21,000 and liberal benefits. Send professional resume, career goals and three (3) letters of recommendation from professional associates to: Personal Department, Philadelphia Zoo, 34th & Girard, Philadelphia, PA 19104.

The following five positions are open at Dreher Park Zoo, West Palm Beach, FL. Resumes should be sent to: Personnel, Dreher Park Zoo, 1301 Summit Blvd., West Palm Beach, FL 33405.

ZOOKEEPER...requires high school diploma. Relevant college-level courses and one year's paid zoo experience desirable. Relevant unpaid experience may substitute. Responsible for care/maintenance of varied collection. Salary \$12,480/yr, plus excellent benefits.

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Opportunity Knocks, Continued

ZOOKEEPER...Reid Park Zoo, Tucson, AZ. Requires high school diploma and at least one year of demonstrated experience in the management of exotic, non-domestic animals. Responsibilities include: complete husbandry of animals and exhibits in assigned area; animal observation; medical treatment; capture and restraint; and public contact. Salary \$18,204 to \$24,408 plus excellent benefits. Contact Raul Navarro, Senior Personnel Analyst, City of Tucson Personnel Department, 110 E. Pennington, Tucson, AZ 85726-7210 (602) 791-4241. Deadline for application is **5 January 1990**.

KEEPER-GUIDE...duties include routine cleaning of exhibits, food preparation and feeding of both small and large mammals, venomous and non-venomous reptiles. Some knowledge of routine maintenance and some construction beneficial. Must have good communication skills and neat appearance for meeting and talking to the public. Requires working six days per week, including weekends and holidays during the months of May through October. Five days per week other months. Starting salary \$12,870 and health insurance. Send resume to: Soco Gardens Zoo, Jim Miller, Rt. 1, Box 355, Maggie Valley, NC 28751. Position open until filled.

SHOWPERSON/ANIMAL TRAINER...for native species animal show. Requires public speaking and animal handling/training experience. Shows are performed at the San Diego Wild Animal Park in contract with Rare & Wild Presentations, Inc. Full-time position \$7.00-\$12.50 per hour depending on experience. Starts 12-11-89. Sends cover letter and resume to: Rare & Wild Presentations, Inc., P.O. Box 987, Valley Center, CA 92082. (619) 749-8198. Position open until filled.

ZOO ATTENDANT...requires high school diploma and one year's paid experience in the care and handling of large and small primates. Salary \$16,704-\$22,548 plus excellent benefits. Send resume by **22 December 1989** to: Diane Roberts, City of Fort Worth Personnel Department, 1000 Throckmorton St., Fort Worth, TX 76102.

VETERINARY TECHNICIAN...at Ellen Trout Zoo. Requires valid ATR Texas license (or equivalent) or be eligible for Texas license; exotic animal experience preferred. Duties include: assisting veterinarian with health care of zoo collection, and care of zoo clinic and animals maintained therein. Will also be responsible for a portion of the mammal collection. Send resume by **31 December 1989** to: Rosie Jones, Personnel Director, City of Lufkin, P.O. Drawer 190, Lufkin, TX 75902-190.



Information Please

The Columbus Zoo's Reptile Dept. staff is looking for solutions to fungal infections in infantile turtles, especially such species as *Elseya latisternum* and *Emydura subglabosa*. We have used 2% salt water and 2% Prepodine solutions with minimal results. If anybody has any other solutions, please contact: Ron Hatcher, Columbus Zoo, 9990 Riverside Drive, Box 400, Powell, OH 43065-0400. Phone (614) 645-3418.

I am compiling information pertaining to pregnancy detection in dromedary camels (*Camelus dromedarius*). I would like information on tests, assays, etc. to quantify the presence of progesterone or estrogen derivatives in serum or urine. Any information would be greatly appreciated, please send to: Wendy Marshall, Erie Zoological Gardens, P.O. Box 3268, Erie, PA 16508.

I am interested in knowing of any zoos that feed a diet (containing no preservatives or food dyes) to their exotic cats. If you do feed such a diet, is it one you prepare yourselves in-house, or one that is commercially marketed? Please write to: Sandra K. Hein, Sr. Zookeeper, Reid Park Zoo, 1100 S. Randolph Way, Tucson, AZ 85716.



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